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LIST OF COLEOPTERA

COLLECTED BY MR. JAMESON ON

THE ARUWIMI.

BY

H. W. BATES, F.R.S., F.L.S., ETC.

[The *Curculionidæ* have been named and described by Mr. H. W. SIMPSON, who has paid especial attention to this family.]

Fam. CARABIDÆ.

TEFFLUS JAMESONI, Bates, n. sp.

T. Raffrayi (Chaud.) affinis, sed differt, inter alia, corpore toto glabro. Niger, thorace sat angusto, hexagono, supra grosse confluentur et subrugose punctato, lateribus postice leviter sinuatis, angulis posticis obtusis; elytris graciliter ovatis, utrinque acute sexcostatis, costis prope apicem 2-6 et 3-5 conjunctis, interstitiis multo grossius quam in cæteris speciebus transverso-foveolatis et granulis medianis inter se valde distantibus. Subtus lævissimus; tibiæ anticæ extus rectæ; antennæ sicut in *T. violaceo* graciles; frons inter oculos et in sulcis longitudinalibus rugoso-punctata, medio et antice lævi, sutura epistomali distincta.

Long. 35 millim.

This species belongs to the group defined by Kolbe as having (besides the raised suture) only six carinæ on each elytron, and differs from the other species of the group in the absence of pilosity and the very coarse sculpture and widely-spaced line of granules in the interstices. The thorax is nearly as long as it is broad, the median dilatation is strongly angular, and the sides behind the angle oblique (very slightly sinuated) to the hind angles, which are therefore obtuse as in *T. Raffrayi*, and not rectangular as in *T. juvenilis*, from which also the species differs in the perfectly smooth episterna.

Fam. DYNASTIDÆ.

ARCHON CENTAURUS, Fabr.

Fam. CETONIIDÆ.

SMARAGDESTHES MUTICA, Harold.

Fam. EROTYLIDÆ.

LINODESMUS CÆCUS, Fabr.

Fam. LAMIIDÆ.

STERNOTOMIS REGALIS, Fabr.

VOLUMNIA WESTERMANNI, Thomson.

Fam. CURCULIONIDÆ.

XENOSTES (LITHINIDÆ), nov. gen.

Rostrum longer than the head, slightly convex, very robust, somewhat narrowed at base, and much thickened at apex; scrobes deep, abruptly curved and confluent beneath. Antennæ rather short, very robust, pubescent; scape a little swollen at apex and inserted in the middle of the rostrum; joints of funiculus cylindrical and rather indistinctly separated, the first two a little longer than the others; club very large, obtuse. Eyes long and narrow. Prothorax convex, a little broader than long, with the sides slightly produced before the middle; straightly truncate at base. Elytra oval, convex. Legs moderately long, robust; the anterior and intermediate coxæ contiguous; femora a little clavate; tibia obtusely unguulate at apex. Tarsi moderately long, spongy beneath. Abdomen elongate, its second segment a little longer than the two following, and separated from the first by a straight suture.

XENOSTES JAMESONI, n. sp.

Sub-elongate, covered above with yellowish-brown and white scales. Rostrum rugose above, with sparse ferruginous setæ at apex, and a deep lateral furrow in front of the eyes; separated from the head by a fine transverse groove. Prothorax with small shining black tubercles and a short longitudinal ridge in the middle; its constricted anterior portion nearly smooth, and defined posteriorly by a series of deep irregular transverse grooves. Elytra narrow at base, gradually dilated at the sides

to about the middle, convex above, nearly vertically declivous at apex, irregularly covered with squamose protuberances crowned with small shining black tubercles (similar to those on the prothorax), and presenting a large elevation on either side of the suture at the commencement of the declivity, which is clothed with ashy scales, and has two sutural series of small black shining tubercles; apex truncate. Abdomen and legs densely clothed with fulvous scales. Long. (rostr. excl.) 18 mm., lat. $9\frac{1}{2}$ mm.

LIXUS COARCTATUS, Klug.

RHYNOPHORUS PHŒNICIS, Fabr.

OXYOPISTHEN PYGIDIALE, n. sp.

Elongate, depressed, black, shining, with a silvery spot on the epimera, and longitudinal bands on the sides of the metasternum, the first abdominal segment, and pygidium.

Rostrum smooth, shining, with two narrow slightly punctured grooves above, originating just beyond the eyes, and deepening towards the apex. Antennæ shining; scape cylindrical; joints of funiculus of equal length. Head very finely punctured. Prothorax conical, much flattened above, rather dull, closely and deeply punctured, and with a fine longitudinal line in the middle. Scutellum oblong-ovate. Elytra a little broader than prothorax at base, slightly attenuated towards the apex, somewhat depressed, shining, and with rather coarsely punctured striæ; interstices smooth and flattish; the second interstice is interrupted near the disc by two obscure depressions. Pygidium conical, finely punctured, carinate, the carina somewhat produced at apex. Underside and legs of a brilliant black; metasternum and abdomen finely punctured; the first segment of the abdomen rather more coarsely so in the middle; femora beneath clothed with fulvous setæ. Long. (rostr. excl.) 12 mm., lat. $3\frac{1}{2}$ mm.

♀. Pygidium more acutely produced at apex; posterior tibia toothed near the base, and somewhat longer than in the male.

This species is allied to *O. linea-alba*, Thom., but is easily distinguished by the absence of any white markings on the prothorax and elytra.

LEPIDOPTERA RHOPALOCERA.

BY

F. D. GODMAN, F.R.S., AND OSBERT SALVIN, F.R.S.

THE collection of Butterflies made by the late Mr. James S. Jameson during the expedition undertaken for the relief of Emin Pasha has been submitted to us by Mrs. Jameson for determination.

The collection contains about 218 specimens belonging to 132 species. So far as we can now determine, it was formed either in the valley of the Lower Congo between Matadi and Stanley Pool, or at the camp at Yambuya on the Aruwimi river.

The very adverse conditions under which the specimens were collected and the subsequent treatment they must have undergone after Mr. Jameson's death account for the smallness of the collection, as from some of the notes in the foregoing diary it is evident that many more specimens must have been preserved than ever reached Mrs. Jameson's hands.

Mr. Jameson made notes of his captures, and numbered each specimen on the paper containing it; but the numbers have in many cases been lost, so that we are unable to collate the specimens with the notes except in comparatively few instances.

The general relationship of the Butterflies of the Congo Valley, as shown in this collection, is evidently with the Tropical portion of the West Coast of Africa, many of the species being the same as those found at Calabar, the Cameroons, and other neighbouring places; and some of these, such as *Papilio hesperus* and *P. zalmoxis*, are characteristic of the region.

Further researches will, no doubt, prove this great valley of the Congo to be one of the richest of the whole of Africa in the variety of its natural productions.

At present the subject has been scarcely touched by the collector, and it is greatly to be regretted that so ardent a naturalist as Mr. Jameson should have had so few opportunities for following his studies, and that so small a portion of his collections should have reached this country.

RHOPALOCERA.

Fam. NYMPHALIDÆ.

Subfam. DANAINÆ.

1. AMAURIS VASHTI.

Danais vashti, Butl. Cist. Ent. i. p. i.

Amauris vashti, Butl. Lep. Ex. p. 54, t. 21. f. 1 H. G. Smith, P. Z. S. 1890, p. 467.

Hab. Nkalama R., April 18th. No. 63. "Very scarce; deep forest on river-bank."

One specimen, agreeing with the type from Old Calabar, and with other examples in our collection from the Cameroon Mountains.

2. AMAURIS NIAVIUS.

Papilio niavius, Linn. Mus. Ulr. p. 253; Clerck, Icon. t. 32. f. 2.

Hab. Yambuya Camp, Aruwimi River.

One example agreeing with others from various places on the West Coast.

3. AMAURIS EGIALEA.

Papilio egialea, Cram. Pap. Ex. t. 192. f. D.

Amauris egialea, H. G. Smith, P. Z. S. 1890, p. 467.

Hab. Near Mswata. No. 22. "Rather scarce. Distributed generally along the river."

One specimen.

4. AMAURIS DAMOCLES.

Papilio damocles, Pal. Beauv. Ins. Afr. et Am. p. 239, t. 6. ff. 3, a, b.

Amauris damocles, H. G. Smith, P. Z. S. 1890, p. 467.

Hab. Inkissi R., April 16th. No. 31. "Scarce, usually met with in deep shady forest."

A single specimen, with more white at the base of the secon-

daries than shown in Palisot de Beauvois's figure, but agreeing with many West-Coast specimens.

5. *DANAIS PETIVERANA.*

Danais limniace, var. *petiverana*, Doubl. & Hew. Gen. Diurn. Lep. p. 93, t. 12. f. 1.

Tirumala petiverana, H. G. Smith, P. Z. S. 1890, p. 467.

Hab. Yambuya Camp and Congo Valley.

Two examples, without numbers.

6. *DANAIS CHRYSIPPUS.*

Papilio chrysippus, Linn. Mus. Ulr. p. 263; Cram. Pap. Ex. t. 118. ff. B, C.

Hab. Mpalaballa, 27th March. No. 21. "Common along the whole march."

A single male specimen, without a trace of white on the secondaries.

Subfam. SATYRINÆ.

7. *MELANITIS LEDA.*

Melanitis leda (Linn.); H. G. Smith, P. Z. S. 1890, p. 472.

Hab. Inkissi River. No. 3. "Decidedly scarce, only a few seen in the deep shade of the forest."

8. *IDIOMORPHUS NANODES.*

Idiomorphus nanodes, H. G. Smith, P. Z. S. 1890, p. 472.

Hab. Yambuya Camp.

Also in Mr. Bonny's Collection.

9. *MYCALESIS AURICRUDA.*

Mycalesis auricruda, Butl. Cat. Sat. Brit. Mus. p. 131, t. 3. f. 6.

Hab. Vombo. No number.

A single specimen, agreeing with Mr. Butler's type in the British Museum.

10. *MYCALESIS SAFITZA.*

Mycalesis safitza, Hew. Gen. Diurn. Lep. p. 394, t. 66. f. 3; Ex. Butt. *Mycalesis*, t. i. f. 4.

Hab. Vombo, April 6th. No. 45. "Commonest of this genus in shaded spots."

11. MYCALESIS, sp.?

Hab. Kimbamwanga, 10th April. No. 52. "Common."

A single specimen, in very worn condition.

12. YPTHIMA ITONIA?

Ypthima itonia, Hew. Trans. Ent. Soc. ser. 2, ii. p. 287, t. 18. f. 13.

Hab. Near Mswata. No. 54. "Very scarce in open paths."

A single specimen, agreeing fairly with a Zanzibar example which we attribute to *Y. itonia*, the type of which came from the "White Nile."

13. YPTHIMA, sp.?

Hab. Vombo, April 6th. No. 49. "Common."

A single specimen, in bad condition, agreeing with one in our collection from the Cameroons.

Subfam. ACRÆINÆ.

14. ACRÆA VESTALIS.

Acraea vestalis, Feld. Reise d. Nov. Lep. p. 369, t. 46. ff. 8, 9.

Hab. Mwembi, 6th April. No. 13. "Common."

A single female specimen.

15. ACRÆA PSEUDEURYTA.

Acraea pseudeuryta, Staud. in litt.

Wings dark brown, primaries crossed by a wide tawny band, the inner edge of which passes the end of the cell to a little beyond the middle of the inner margin and is sharply defined and very undulating, the outer edge at first passes towards the middle of the outer margin, and then curves round towards the anal angle, where it is deeply dentate; the whole of the distal area of the secondaries is tawny, sharply defined along the inner border, which includes a row of dark spots, outwardly the tawny colour gradually blends into the outer border, and is clearly marked by the dark nervules and a dark line on each interspace, that below the first submedian branch being double. Beneath the primaries are paler than above; the secondaries are paler brown at the base and marked with a number of nearly round, clearly defined black spots, a light band crosses

the wing beyond the cell, and, as well as the outer portion of the wing, is divided by dark nervules and a dark line on each interspace; the abdomen tawny, with dark brown transverse marks, especially towards the proximal end; the thorax, prothorax, and head dark brown spotted with white.

Hab. Yambuya Camp. No. 78, a. "On river-banks."

A distinct species, allied to *A. euryta* (Linn.), but differing in the darker brown colour of the wings, the wider tawny band of the primaries, the greater extent of the tawny discal area of the secondaries, and their darker and more sharply defined base; the outer border, especially towards the apical angle, is much darker, and the dark nervules and the intermediate lines much more clearly defined.

Dr. Staudinger, to whom we submitted the single male specimen before us, rightly, we think, considers it separable from *A. euryta*, and suggested the name we employ.

16. *ACRÆA ELONGATA*.

Planema elongata, Butl. Cist. Ent. i. p. 212.

Acræa eurita, Hew. Ex. Lep. *Acræa*, t. 5. ff. 28, 30.

Hab. Congo Valley. No number or special locality.

A female specimen, agreeing with others in our collection from the Cameroons. The inner margin of the primaries is dark brown and not tawny as in Hewitson's figure of the female referred by Mr. Butler to this species.

17. *ACRÆA PSEUDEGINA*.

Papilio egina, Stoll, Suppl. Cram. t. 25. ff. 3, 3c (nec Cram.).

Acræa pseudegina, Westw. in Doubl. & Hew. Gen. Diurn. Lep. p. 531.

Hab. Banza Manteka, 1st April; Kimbamwango, 10th April. Nos. 6, 12. "Common in great variety. River-banks and all open spaces."

Two females, with the subapical spot on the primaries rather large.

18. *ACRÆA ROGERSI*.

Acræa rogersi, Hew. Ent. Monthly Mag. x. p. 57.

Hab. Congo Valley.

A single small specimen.

19. *ACRÆA ORINA*.

Acræa orina, Hew. Ent. Monthly Mag. xi. p. 130 ; Ex. Butt. *Acræa*, t. 7. ff. 43, 48.

Hab. Congo valley.

A single example, which agrees with Hewitson's types from Fernando Po.

20. *ACRÆA CEPHEUS*.

Papilio cepheus, Linn. Mus. Ulr. p. 252 ; Clerck, Icon. t. 43. f. 4.

Acræa cepheus, H. G. Smith, P. Z. S. 1890, p. 466.

Hab. Bolobo, Congo Valley. No special locality, and no number.

A male and two females.

21. *ACRÆA DEJANA*, sp. n.

Acræa circeis, H. G. Smith, P. Z. S. 1890, p. 466 (nec Drury).

Allied to *A. circeis* of Drury, but differs in the greater width of the yellow discal patch of the secondaries, its outer margin being curved and subparallel to the outer margin of the wing instead of nearly straight and transverse ; the primaries have white scales within the semihyaline subapical spots, there is also a patch of scales within the cell, and a large one between the first and second submedian branches, but hardly any below the first branch. *A. circeis* has only two spots on the primaries, and these are yellowish ; the smaller is between the first and second median branches, and the larger is below the first branch near the anal angle ; the insect, too, appears to be of larger size.

Hab. Congo Valley, no special locality.

We have several specimens closely allied to that now described, but presenting slight differences which prove to be specific ; these, again, represent two forms, one from Angola and one from Fernando Po. They all differ from the true *A. circeis* in having more spots on the primaries and a larger yellow discal patch on the secondaries. We thus have evidence of at least four forms of this section of *Acræa*, but at present we content ourselves with describing the one represented in the present collection.

22. *ACRÆA LYCOA*.

Acræa lycoa, Godt. Enc. Méth. ix. p. 239.

Hab. Congo Valley. No number and no special locality. A damaged specimen, agreeing with others in our collection thus named.

23. *ACRÆA CYDONIA*.

Acræa cydonia, Ward, Ent. Monthly Mag. x. p. 59; H. G. Smith, P. Z. S. 1890, p. 466.

Hab. Inkissi River, 16th April. No. 30. "Generally common in shady glades."

Three specimens, agreeing with others thus named in our collection.

24. *ACRÆA EPONINA*.

Papilio eponina, Cram. Pap. Ex. t. 268. ff. A, B.

Acræa eponina, H. G. Smith, P. Z. S. 1890, p. 466.

Hab. Vombo, April 6th.

Two specimens, one agreeing closely with Cramer's figure; in the other the common fuscous band is united to the costal band of the primaries at its distal end.

25. *ACRÆA SERENA*.

Acræa serena (Fabr.), H. G. Smith, P. Z. S. 1890, p. 466.

Papilio eponina, ♀, Cram. Pap. Ex. t. 268. ff. C, D.

Hab. Congo Valley. No precise locality and no number.

Subfam. NYMPHALINÆ.

26. *LACHNOPTERA IOLE*.

Papilio iole, Fabr. Sp. Ins. ii. p. 78.

Lachnoptera iole, Doubl. & Hew. Gen. Diurn. Lep. p. 161, t. 22. f. 2.

Hab. Inkissi River, April 16th.

One male specimen.

27. *ATELLA PHALANTHA*.

Papilio phalantha, Drury, Ill. Ex. Ent. i. p. 41, t. 21, ff. 1, 2.

Atella columbina, H. G. Smith, P. Z. S. 1890, p. 467.

Hab. Inkissi River, April 10th.

A pair of this common species.

28. *HYPANARTIA DELIUS*.

Papilio delius, Drury, Ill. Ex. Ent. iii. p. 17, t. 14. ff. 5, 6.

Yambuya Camp.

Two specimens.

29. *JUNONIA WESTERMANNI*.

Junonia westermanni, Westw. Ent. Monthly Mag. vi. p. 278.

Hab. Yambuya Camp.

Two examples.

30. *JUNONIA CLELIA*.

Junonia clelia (Cram.), H. G. Smith, P. Z. S. 1890, p. 467.

No special locality and no number.

31. *PRECIS TEREA*.

Papilio terea, Drury, Ill. Ex. Ent. ii. p. 32, t. 18. ff. 3, 4.

Hab. Banza Manteka, April 1st. No. 77.

Three examples.

32. *PRECIS PELASGIS*.

Vanessa pelasgis, Godt. Enc. Méth. ix. Suppl. p. 820.

Precis pelasgis, Trim. S. Afr. Butt. i. p. 236.

Hab. Inkissi River, April 16th. No. 8.

"Scarce, in bright open glades."

33. *PRECIS SOPHIA*.

Papilio sophia, Fabr. Ent. Syst. iii. p. 248; Don. Ins. Ind.
t. 36. f. 3.

Hab. Congo Valley.

One example. No special locality and no number.

34. *SALAMIS ETHYRA*.

Salamis ethyra, Feisth. Ann. Soc. Ent. Fr. 1850, p. 250.

Hab. Inkissi River, April 16th.

35. *SALAMIS CACTA*.

Salamis cacta (Fabr.), H. G. Smith, P. Z. S. 1890, p. 467.

Hab. Aruwimi River. No. 79, a.

"Not observed on the Congo."

36. SALAMIS ANACARDII.

Papilio anacardii, Linn. Syst. Nat. i. p. 755.

Salamis anacardii, H. G. Smith, P. Z. S. 1890, p. 467.

Hab. Yambuya Camp.

37. EURYTELA OPHIONE.

Papilio ophione, Cram. Pap. Ex. t. 114. ff. E, F.

Hab. Mswata, April 16th.

38. EURYTELA ETHOSEA.

Papilio ethosea, Drury, Ill. Ex. Ent. iii. p. 51, t. 37. ff. 3, 4.

Hab. Congo Valley.

A single specimen, with hardly any indication of the usual discal spot on the primaries.

39. EURYTELA HIARBAS.

Papilio hiarbas, Drury, Ill. Ex. Ent. iii. p. 17, t. 14. ff. 1, 2.

Eurytela hiarbas, H. G. Smith, P. Z. S. 1890, p. 473.

Hab. Congo Valley.

40. ERGOLIS ENOTREA.

Papilio enotrea, Cram. Pap. Ex. t. 236. ff. A, B.

Ergolis enotria, H. G. Smith, P. Z. S. 1890, p. 473.

Hab. Congo Valley.

41. HYPANIS ILITHYIA.

Papilio ilithyia, Drury, Ill. Ex. Ent. ii. p. 29, t. 17. ff. 1, 2.

Hypanis ilithyia, H. G. Smith, P. Z. S. 1890, p. 473.

Hab. Nkalama River, April 18th. No. 44.

"Common on river-banks and open glades."

42. CRENIS CONCORDIA.

Harma concordia, Hopff. Monatsb. k. Ak. Wiss. Berl. 1855, p. 641; Peters, Reise n. Mossamb. p. 391, t. 22. ff. 3, 4.

Hab. Congo Valley.

A single male specimen.

43. CRENIS PECHUELII.

Crenis pechuelii, Dewitz, Nov. Act. Ae. C. L.-C. Nat. Cur. xli, (2) no. 2, p. 195, t. 26. f. 1.

Hab. Mswata, April 16th. No. 26.

"Common on high open ground away from rivers."

44. CRENIS VADIMONIS.

Crenis vadimonis, Druce, Ent. Monthly Mag. xiv. p. 226.

Crenis ribbei, Dewitz, Nov. Act. Ac. C. L.-C. Nat. Cur. xli
(2) no. 2, p. 196, t. 26. f. 3 (1879).

Hab. Kimbamwanga, Congo Valley.

45. CRENIS AMULIA.

Papilio amulia, Cram. Pap. Ex. t. 180. ff. C, D.

Hab. Mpwka River, April 11th. No. 73.

46. CRENIS BENGUELÆ.

Crenis benguelæ, Chapman, Ent. Monthly Mag. viii. p. 175.

Hab. Congo Valley.

47. HYPOLIMNAS SALMACIS.

Papilio salmacis, Drury, Ill. Ex. Ent. ii. p. 14, t. 8. ff. 1, 2.

Hypolimnas salmacis, H. G. Smith, P. Z. S. 1890, p. 469.

Hab. Upper Congo, Yambuya Camp.

48. HYPOLIMNAS ANTHEDON.

Diadema anthedon, Doubl. Ann. Nat. Hist. xvi. p. 181;
Doubl. & Hew. Gen. Diurn. Lep. t. 37. f. 2.

Hab. Yambuya Camp.

This also varies slightly from the figure, the transverse band of the primaries being narrower and the dark outer border of the secondaries wider than in Hewitson's figure.

49. HYPOLIMNAS STANLEYI.

Hypolimnas stanleyi, H. G. Smith, P. Z. S. 1890, p. 467.

Hab. Yambuya Camp.

One male specimen.

50. HYPOLIMNAS DUBIUS.

Papilio dubius, Pal. Beauv. Ins. Afr. et Am. p. 238, t. 6. f. 2,
a, b.

Hypolimnas dubius, H. G. Smith, P. Z. S. 1890, p. 469.

Hab. Vombo, April 6th. No. 53.

A single specimen, agreeing with a dark form of this species;
common on the West Coast.

51. PSEUDACRÆA LUCRETIA.

Papilio lucretia, Cram. Pap. Ex. t. 45. ff. C, D.

Hab. Yambuya Camp.

52. PSEUDACRÆA HOSTILIA.

Papilio hostilia, Drury, Ill. Ex. Ent. iii. p. 38, t. 28. ff. 5, 6.

Hab. Nkalama River, April 18th.

53. PSEUDACRÆA SEMIRE.

Papilio semire, Cram. Pap. Ex. t. 194. ff. B, C.

Hab. Congo Valley. No special locality.

54. CATUNA CRITHEA.

Papilio crithea, Drury, Ill. Ex. Ent. ii. p. 29, t. 16. ff. 5, 6.

Iæra crithea, H. G. Smith, P. Z. S. 1890, p. 469.

Hab. Congo Valley.

55. CATUNA DUODECIMPUNCTATA.

Iæra duodecimpunctata, Snell. Tijdschr. Ent. xv. p. 15, t. 1. ff. 1, 2 (1872).

Aterica clorana, Druce, Trans. Ent. Soc. 1874, p. 157.

Hab. Congo Valley.

56. NEPTIS JAMESONI, sp. n.

Male. Above brownish black; nearly the whole of the cell (the lower and apical portions of which are bluish), seven more or less elongated spots beyond the cell from the costa to the inner margin (that next the costa small and narrow, less than half the second and third, the fourth very small and roundish, the fifth oval, the sixth roundish, and the seventh next the inner margin large and bifid), white; four submarginal lines whitish, the innermost and that next the costa faint: secondaries with a wide transverse white band deeply indented on its lower margin; four submarginal bands, the innermost dusky, the rest whitish, the third from the margin widest. Underside as above but paler, and all the white marks and the submarginal lines clearer; the spot over the cell of the primaries is divided towards its distal end by two transverse black lines; the base of the costa of both wings and two subparallel curved bands towards the base of the secondaries white.

Hab. Congo Valley. No special locality.

A conspicuous species, not very nearly allied to any that we are acquainted with, but perhaps closer to *N. nebrodes*, Hew., than to any other known *Neptis*.

57. NEPTIS NEMETES.

Neptis nemetes, Hew. Ex. Butt. *Neptis*, ff. 1, 2; H. G. Smith, P. Z. S. 1890, p. 467.

Hab. Congo Valley.

58. NEPTIS AGATHA.

Papilio agatha, Cram. Pap. Ex. t. 327. ff. A, B.

Neptis agatha, H. G. Smith, P. Z. S. 1890, p. 467.

Hab. Vombo.

59. NEPTIS, sp.

A single specimen, in poor condition; allied to *N. nicomedes*, Hew.

Hab. Congo Valley.

60. EURYPHENE MANDINGA.

Euryphene mandinga, Feld. Wien. ent. Mon. iv. p. 108; H. G. Smith, P. Z. S. 1890, p. 469.

Hab. Congo Valley; no special locality.

61. EURYPHENE MARDANIA.

Papilio mardania, Fabr. Ent. Syst. iii. p. 249.

Hab. Congo Valley.

62. EURYPHENE SOPHUS.

Papilio sophus, Fabr. Ent. Syst. iii. p. 46.

Euryphene sophus, Doubl. & Hew. Gen. Diurn. Lep. t. 43. f. 4.

Hab. Yambuya Camp, March 7th.

A single female example.

63. EURYPHENE, sp.

Hab. Congo Valley. A male and female, without special locality.

We have been unable to find a name for this butterfly, which is allied to *E. doralice*, Hew. We hesitate, however, to name it, seeing that the genus is in considerable confusion.

64. EURYPHENE, sp.?

Hab. Congo Valley. No special locality.

A female, similar to *E. aramis*, Hew., but with the buff spots of the upper surface of the wings replaced by crimson; that of the primaries extends nearer to the base of the wings.

65. ROMALÆOSOMA MEDON ?

Papilio medon, Linn.

Hab. Congo Valley. Four males and a female.

Doubtfully referable to this species. The males differ considerably from one another, two of them being of the form described by Mr. Butler as *R. viridinota*.

66. ROMALÆOSOMA, sp. ?

Hab. Congo Valley. A male and female, without exact locality.

Allied to *R. xypete*, Hew., but with the underside of the wings much less distinctly marked.

67. ROMALÆOSOMA, sp. ?

Hab. Congo Valley. A single male specimen, without special locality.

Dr. Staudinger, to whom we sent this specimen, considers it to be between *R. inanum*, Butl., and *R. rana*, Staud.; but that, without a series of specimens, it was not desirable to describe it.

68. ROMALÆOSOMA RUSPINA.

Romalæosoma ruspina, Hew. Ex. Butt. *Romalæosoma*, t. 2. ff. 6, 7 ; H. G. Smith, P. Z. S. 1890, p. 470.

Hab. Congo Valley. No special locality.

69. ATERICA AFER.

Papilio afer, Drury, Ill. Ex. Ent. iii. p. 49, t. 36. ff. 1, 2.

Hab. Yambuya Camp.

70. ATERICA CUPAVIA.

Papilio cupavia, Cram. Pap. Ex. t. 193. ff. E, F.

Aterica cupavia, H. G. Smith, P. Z. S. 1890, p. 469.

Hab. Above Mswatá, May 7th, and Aruwimi River.

71. ATERICA, sp. ?

Hab. Nkalama River, April 18th.

A female specimen of a species allied to *A. veronica*.

72. CYMOTHOË THEODOSIA.

Cymothoë theodosia, Staud.

Cymothoë theodota, H. G. Smith, P. Z. S. 1890, p. 471.

♂. Similar to *C. theodota*, but the dark outer border of both primaries and secondaries less clearly defined, the submarginal

lunules being thus more conspicuous; the secondaries have the outer border more sinuated. The female is very similar to that sex of *C. theodota*, but the interior of the secondaries is creamy white, and there is no discal tawny patch.

Hab. Aruwimi River.

73. CYMOTHOË THEOBENE.

Harma theobene, Doubl. & Hew. Gen. Diurn. Lep. t. 40. f. 3.

Cymothoë theobena, H. G. Smith, P. Z. S. 1890, p. 471.

Hab. Congo Valley.

74. CYMOTHOË JODUTTA.

Harma jodutta, Westw. Gen. Diurn. Lep. p. 289.

Hab. Congo Valley. Three males and three females, without special locality.

75. CYMOTHOË CÆNIS.

Papilio canis, Drury, Ill. Ex. Ent. ii. p. 33, t. 19. ff. 1, 2.

Hab. Vombo.

Two males and four females; the latter all differ from one another; one of them is very similar to the male, another resembles the insect figured by Hewitson as *Harma adelina*, the other two are intermediate between these two extremes. Whether all really belong to one species must remain an open question, as the materials are not sufficient to settle the point satisfactorily.

76. CYMOTHOË SANGARIS.

Nymphalis sangaris, Godt. Enc. Méth. ix. p. 384; Lucas, Lep. Ex. p. 129, t. 69. f. 2.

Hab. Aruwimi River.

Three males, all with a common dark transverse band on the under surface of the wings, a character which appears to separate this species from the nearly allied *C. coccinata*.

77. CYMOTHOË HESIODUS?

Harma hesiodus, Hew. Ex. Butt. *Harma*, t. 4. ff. 15-18.

Hab. Aruwimi river.

A single female, either of this or a closely allied species.

78. CHARAXES CASTOR.

Papilio castor, Cram. Pap. Ex. t. 37. ff. C, D.

Charaxes castor, H. G. Smith, P. Z. S. 1890, p. 472.

Hab. Aruwimi River.

79. CHARAXES BRUTUS.

Papilio brutus, Cram. Pap. Ex. t. 241. ff. E, F.

Charaxes brutus, H. G. Smith, P. Z. S. 1890, p. 472.

Hab. Aruwimi River.

80. CHARAXES LUCRETIVUS.

Papilio lucretius, Cram. Pap. Ex. t. 82. ff. E, F.

Hab. Aruwimi River.

81. CHARAXES ETESIPE.

Nymphalis etesipe, Godt. Enc. Méth. ix. p. 355.

Charaxes etesipe, H. G. Smith, P. Z. S. 1890, p. 472.]

Hab. Upper Congo, Aruwimi River.

82. CHARAXES TIRIDATES.

Papilio tiridates, Cram. Pap. Ex. t. 161. ff. A, B.

Charaxes tiridates, H. G. Smith, P. Z. S. 1890, p. 472.

Hab. Aruwimi River.

83. CHARAXES NUMENES.

Nymphalis numenes, Hew. Ex. Butt., *Nymphalis*, t. 2. ff. 9-11.

Hab. Aruwimi River.

84. CHARAXES SMARAGDALIS.

Charaxes smaragdalis, Butl. P. Z. S. 1865, p. 630, t. 36. f. 5;
Lep. Ex. p. 5, t. 2. f. 1.

Hab. Yambuya Camp.

Two males, agreeing with the type.

85. CHARAXES EPHYRA.

Nymphalis ephyra, Godt. Enc. Méth. ix. p. 355.

Hab. Aruwimi River.

86. CHARAXES CARTERI.

Charaxes carteri, Butl. Ent. Monthly Mag. xviii. p. 108.

Hab. Nkalama River, April 18th.

87. CHARAXES CANDIOPE.

Nymphalis candiope, Godt. Enc. Méth. ix. p. 353.

Charaxes candiope, H. G. Smith, P. Z. S. 1890, p. 472.

Hab. Aruwimi River.

88. CHARAXES EUPALE.

Papilio eupale, Drury, Ill. Ex. Ent. iii. p. 7, t. 6. f. 3.

Charaxes eupale, H. G. Smith, P. Z. S. 1890, p. 472.

Hab. Aruwimi River.

89. CHARAXES? ZINGHA.

Papilio zingha, Cram. Pap. Ex. t. 315. ff. B, C.*Hab.* Yambuya Camp.

90. PHILOGNOMA VARANES.

Papilio varanes, Cram. Pap. Ex. t. 160. ff. D, E.*Philognoma varanes*, H. G. Smith, P. Z. S. 1890, p. 472.*Hab.* Congo Valley.

Fam. ERYCINIDÆ.

91. ABISARA HERWIGII.

Abisara herwigii, Dewitz, Deutsch. ent. Zeitschr. 1886, p. 429, t. 2. ff. 1, 1 *a*, 1 *b*, 1 *c*.*Hab.* Congo Valley.

A male with no special locality.

Fam. LYCÆNIDÆ.

92. LYCÆNA JUBA.

Papilio juba, Fabr. Mant. Ins. p. 82.*Lampides juba*, Butl. Cat. Fabr. Lep. p. 163, t. 2. f. 9.*Hab.* Congo Valley.

A male without exact locality.

93. LYCÆNA ISIS.

Papilio isis, Drury, Ill. Ex. Ent. ii. p. 6, t. 3. ff. 4, 5.*Hab.* Congo Valley.

A male without special locality.

94. LYCÆNA PULCHRA.

Lycæna pulchra, Murr. Trans. Ent. Soc. 1874, p. 524, t. 10. ff. 7, 8.*Hab.* Vombo.

A pair in poor condition.

95. LYCÆNA, sp.?

One example near *L. gamra* of Lederer.*Hab.* Inkissi River, April 16th.

96. LYCÆNESTHES LARYDAS.

Papilio larydas, Cram. Pap. Ex. t. 282. f. H.*Hab.* Congo Valley.

A male without exact locality.

97. *LYCÆNESTHES SYLVANUS*.

Papilio sylvanus, Drury, Ill. Ex. Ent. ii. p. 5, t. 3. ff. 2, 3.

Hab. Congo Valley.

A male without exact locality.

98. *LYCÆNESTHES*, sp.?

Hab. Congo Valley.

A male specimen.

99. *IOLAUS IULUS*.

Iolaus iulus, Hew. Ill. Diurn. Lep., Suppl. p. 9, t. 4. ff. 41-43.

Hab. Congo Valley.

A damaged male, probably of this species, without exact locality.

100. *MYRINA NOMENIA*.

Myrina nomenia, Hew. Trans. Ent. Soc. 1874, p. 353; Ill. Diurn. Lep. Suppl. p. 25, t. 3 b. ff. 105, 106.

Hab. Inkissi River, April 16th.

101. *HYPOLYCÆNA ANTIFAUNUS*.

Iolaus antifaunus, Doubl. & Hew. Gen. Diurn. Lep. t. 75. f. 1.

Hab. Congo Valley.

A single male specimen, without exact locality.

102. *PITHECOPS ELOREA*.

Papilio elorea, Fabr. Ent. Syst. iii. p. 194; Don. Nat. Rep. ii. t. 53.

Hab. Kiliamanga? (probably Kimbamanga).

A single example agreeing with Donovan's figure.

103. *PENTILA TACHYROIDES*.

Pentila tachyroides, Dewitz, Nov. Act. Ac. C. L.-C. G. Nat. Cur. xli. pt. 2, no. 2, p. 201; t. 62. f. 5.

Hab. Bolobo.

104. *LIPTENA ILMA*.

Liptena ilma, Hew. Ex. Butt., *Pent.* & *Lipt.* t. 2. f. 13.

Hab. Near Mswata.

Fam. PAPILIONIDÆ.

Subfam. PIERINÆ.

105. TERIAS BRIGITTA.

Papilio brigitta, Cram. Pap. Ex. t. 331. ff. B, C.

Hab. Banza Manteka, April 1st.

One example, probably a female of this species.

106. TERIAS SENEGALENSIS.

Terias senegalensis, Boisd. Sp. Gén. i. p. 672.

Hab. Congo Valley, Mpalaballa, and elsewhere.

Several specimens, probably of this species.

107. PIERIS DENTIGERA?

Pieris dentigera, Butl.

Hab. Congo Valley.

108. PIERIS PHAOLA.

Pieris phaola, Doubl. Ann. Mag. Nat. Hist. xx. p. 63.

Hab. Congo Valley.

109. BELENOIS SYLVIA.

Papilio sylvia, Fabr. Syst. Ent. p. 470.

Belenois sylvia, H. G. Smith, P. Z. S. 1890, p. 464.

Hab. Inkissi River, April 16th.

110. ERONIA PHARIS.

Pieris pharis, Boisd. Sp. Gén. i. p. 443.

Hab. Congo Valley.

One male example.

111. ERONIA ARGIA.

Papilio argia, Fabr. Syst. Ent. p. 470.

Eronia argia, H. G. Smith, P. Z. S. 1890, p. 465.

Hab. Congo Valley.

112. PIERIS CALYPSO.

Papilio calypso, Drury, Ill. Ex. Ent. ii. p. 30, t. 17. ff. 3, 4.

Hab. Congo Valley.

113. CATOPSILIA PYRENE.

Colias pyrene, Swains. Zool. Ill. i. t. 51.

Catopsilia pyrene, H. G. Smith, P. Z. S. 1890, p. 465.

Hab. Congo Valley.

Subfam. PAPILIONINÆ.

114. PAPILIO POLICENES.

Papilio policenes, Cram. Pap. Ex. t. 37. ff. A, B; H. G. Smith, P. Z. S. 1890, p. 464.

Hab. Inkissi River, April 16th.

115. PAPILIO ANTHEUS.

Papilio antheus, Cram. Pap. Ex. t. 234. ff. B, C; H. G. Smith, P. Z. S. 1890, p. 464.

Hab. Inkissi River, April 16th.

116. PAPILIO CORINNEUS.

Papilio corinneus, Berth. Mem. Bologna, p. 9, t. 1. f. 1.

Hab. Inkissi River, April 16th.

117. PAPILIO LEONIDAS.

Papilio leonidas, Fabr. Ent. Syst. iii. p. 35; H. G. Smith, P. Z. S. 1890, p. 464.

Hab. Congo Valley. No exact locality.

118. PAPILIO RIDLEYANUS.

Papilio ridleyanus, White, Ann. Mag. Nat. Hist. xii. p. 262; Doubl. & Hew. Gen. Diurn. Lep. t. 3. f. 3.

Hab. Inkissi River, April 16th.

119. PAPILIO TYNDERÆUS.

Papilio tyndæræus, Fabr. Ent. Syst. iii. p. 35; H. G. Smith, P. Z. S. 1890, p. 464.

Hab. Yambuya Camp.

120. PAPILIO DEMOLEUS.

Papilio demoleus, Linn. Syst. Nat. i. p. 753; Cram. Pap. Ex. t. 231. ff. A, B; H. G. Smith, P. Z. S. 1890, p. 464.

Hab. Mpalamaballa, March 27th; Yambuya Camp.

121. PAPILIO MENESTHEUS.

Papilio menestheus, Drury, Ill. Ex. Ent. ii. p. 15, t. 9. ff. 1, 2; H. G. Smith, P. Z. S. 1890, p. 464.

Hab. Congo Valley. No special locality.

122. PAPILIO BROMIUS.

Papilio bromius, Doubl. Ann. Mag. Nat. Hist. xvi. p. 176; H. G. Smith, P. Z. S. 1890, p. 464.

Hab. Inkissi River, April 16th.

123. *PAPILIO ERINUS*.*Papilio erinus*, Gray, Cat. Lep. Ins. Brit. Mus. i. p. 26.*Hab.* Inkissi River, April 16th.124. *PAPILIO HESPERUS*.*Papilio hesperus*, Westw. Arc. Ent. i. p. 189, t. 48.*Hab.* Congo Valley. No precise locality.125. *PAPILIO MEROPE*.*Papilio merope*?, Cram. Pap. Ex. t. 151. ff. A, B; H. G. Smith, P. Z. S. 1890, p. 464.*Hab.* Kuilu River, April 5th.

One male specimen, agreeing with Sierra Leone examples in our collection.

126. *PAPILIO ZALMOXIS*.*Papilio zalmoxis*, Hew. Ex. Butt. *Papilio*, t. 6. f. 18; H. G. Smith, P. Z. S. 1890, p. 464.*Hab.* Congo Valley. No precise locality.Fam. *HESPERIDÆ*.127. *ISMENE FORESTAN*.*Papilio forestan*, Cram. Pap. Ex. t. 391. ff. E, F.*Hab.* Banza Manteka.128. *TAGIADES FLESUS*.*Tagiades flesus*, Fabr. Spec. Ins. ii. p. 135.*Papilio ophion*, Drury, Ill. Ex. Ent. iii. p. 21, t. 17. ff. 1, 2.*Hab.* Congo Valley.129. *PROTEIDES OPHIUSA*.*Hesperia ophiusa*, Hew. Trans. Ent. Soc. ser. 3, ii. p. 497.*Hab.* Congo Valley.

130, 131, 132.

There are representatives of three other species of *Hesperidæ* which, in the present state of the nomenclature of the family, we cannot determine with certainty.

LEPIDOPTERA HETEROCERA.

BY

HERBERT DRUCE, F.L.S.

Fam. SPHINGIDÆ.

Subfam. MACROGLOSSINÆ.

HEMARIS, Dalm.

HEMARIS HYLAS.

Sphinx hylas, Linn. Mant. i. p. 539.*Hemaris hylas*, Butl. Trans. Zool. Soc. ix. p. 522; Druce, Moloney's Forestry of Western Africa, appendix v. p. 492.

One specimen, captured 27th March. It is identical with those in my collection from the Gambia, Calabar, and Cameroons.

MACROGLOSSA, Ochs.

MACROGLOSSA TROCHILOIDES.

Macroglossa trochiloides, Butl. P. Z. S. 1875, p. 5; Trans. Zool. Soc. ix. p. 525.

The type in the National Collection is from Sierra Leone; the two specimens captured in April by the late Mr. Jameson are slightly smaller than any I have seen, but they do not differ in any other point from those I have from the Cameroons and Delagoa Bay.

Subfam. CHÆROCAMPINÆ.

PHILAMPELUS, Harris.

PHILAMPELUS MEGERA.

Sphinx megera, Linn. Mus. Lud. Ulr. p. 358; Clerck's Icones, t. 47. f. 2.*Philampelus megera*, Walk. Cat. viii. p. 179; Butl. Trans. Zool. Soc. ix. p. 577.

One specimen, that in no way differs from those in my collection from West Africa, Delagoa Bay, and Madagascar.

This species is very widely distributed in Africa, but examples from the West Coast and the one captured by Mr. Jameson are larger than those I have from Natal and Delagoa Bay.

Fam. AGARISTIDÆ.

EUSEMIA, Dalm.

EUSEMIA PALLIDA.

Eusemia pallida, Walk. Cat. i. p. 52.

One specimen that differs slightly from all those in my own collection in having an additional spot on the apical band of the primaries, but in one or two of the female specimens from Cape Palmas the faintest trace of the spot is shown.

Fam. ZYGÆNIDÆ.

Subfam. THYRETINÆ.

SALIUNCA, Walk.

SALIUNCA THORACICA.

Tipulodes? thoracica, Walk. Cat. vii. p. 1626.

Saliunca thoracica, Walk. Cat. xxxi. p. 108; Butl. Journ. Linn. Soc., Zool. xii. p. 358.

One example of this beautiful little insect, much brighter in colour than those from Sierra Leone in the National Collection or than any from Elobey in my own collection.

Subfam. EUCHROMIINÆ.

EUCHROMIA, Hübn.

EUCHROMIA FULVIDA.

Euchromia fulvida, Butl. Trans. Ent. Soc. 1888, p. 112, t. iv. f. 5.

Four specimens, captured in March and April. This species varies slightly in colour, judging from the twenty specimens in my collection from various localities in West Africa.

EUCHROMIA LEONIS.

Euchromia leonis, Butl. Journ. Linn. Soc., Zool. xii. p. 363; Trans. Ent. Soc. 1888, p. 113.

Two specimens, captured the 18th April, are identical with those from Logos, Elobey, and the Oogowai River in my collection; they do not vary in the least.

Fam. ARCTIIDÆ.

AREAS, Walk.

AREAS LUTESCENS.

Spilosoma lutescens, Walk. Cat. iii. p. 672.*Halesidota mundata*, Walk. Cat. xxxi. p. 309.*Areas lutescens*, Butl. Cist. Ent. ii. p. 22.

Also in the National Collection. This species is now placed in the genus *Phissama*, Moore.

Fam. LITHOSIIDÆ.

ARGINA, Hübn.

ARGINA CINGULIFERA.

Deiopeia cingulifera, Walk. Cat. ii. p. 569.

Argina cingulifera, Druce, Moloney's Forestry of Western Africa, appendix v. p. 495.

One specimen, captured 12th April, in all respects identical with those from the Gambia, Abyssinia, and Lake Nyassa in my collection.

Fam. NYCTEMERIDÆ.

ALETIS, Hübn.

ALETIS HELCITA.

Papilio helcita, Linn. Amœn. Acad. vi. p. 405 ; Clerck, Icon. t. 39. f. 4.

Aletis helcita, Walk. Cat. ii. p. 353.

One specimen of this common insect was captured by Mr. Jameson ; it in no respect differs from those before me from the East and West Coasts of Africa.

Fam. SATURNIIDÆ.

BUNÆA, Hübn.

BUNÆA JAMESONI, sp. n.

Primaries olive-brown, with a hyaline spot at the end of the cell, a brown line crossing the wing from the costal to the inner margin near the base on the outer side of the line ; the wing is thickly irrorated with purplish white, extending along the costal margin as far as the end of the cell. A narrow purplish-white line, edged on both sides with black, crosses the

wing from the apex to the inner margin above the anal angle; on the outer side of the line is a wide purplish-white band, which gradually widens from the apex to the inner margin; the outer margin olive-brown; the costal margin near the apex is irrorated with purplish-white scales. Secondaries olive-brown, rather darker than the primaries; the costal margin from the base to near the apex, but not quite reaching it, broadly banded with bright rose-pink. A broad line, broadly edged with purplish white, crosses the wing near the base from the inner margin to the edge of the pink costal margin; about the middle of the wing is a large ocellus, with the central spot hyaline, round which is a wide ring of bright olive-brown, broadly bordered with black, which is again bordered with a wide ring of pale dove-colour. A purplish-white line, edged on the outer side with black, crosses the wing below the ocellus from the costal margin just above the apex to the inner margin, considerably above the anal angle, below the line the wing is broadly irrorated with purplish-white scales; the underside of both wings dark brown, thickly irrorated with purplish white and crossed by a dark brown line; the inner margin of the primaries from the base to almost the anal angle broadly bordered with bright rose-pink; the head, thorax, and abdomen olive-brown, banded with dark brown; the collar, tips of the tegulæ, and the sides and base of the abdomen pinkish white; the underside of the head and the legs dark brown; the antennæ black. Expanse $6\frac{1}{2}$ inches.

A single specimen of this fine and very distinct insect was captured; I have named it after its discoverer, the late Mr. Jameson. The broad pink costal margin of the secondaries at once distinguishes it from all the species known to me.

Fam. OPHIDERIDÆ.

OPHIDERES, Boisd.

OPHIDERES DIVITIOSA.

Ophideres divitiosa, Walk. Proc. Nat. Hist. Soc. Glasgow, i. pp. 326, 356, t. vii. f. 11; Druce, Moloney's Forestry of Western Africa, appendix v. p. 500.

One specimen, identical with those from Old Calabar and the

Cameroons. This species varies considerably in the colour of the primaries ; some of the specimens in the large series before me have a wide green line extending from the apex to the inner margin. The specimen captured by the late Mr. Jameson has no green, which appears to be the normal form from the Cameroons.

Fam. OMMATOPHORIDÆ.

PATULA, Guén.

PATULA WALKERI.

Patula walkeri, Butl. Ann. & Mag. Nat. Hist. ser. 4, xvi. p. 406 ; Druce, Moloney's Forestry of Western Africa, appendix v. p. 500.

A specimen in fine condition of this common insect, captured by the late Mr. Jameson at the Yambuya Camp, Aruwimi River, is identical with those from all parts of Tropical Africa and Madagascar in my collection.

Fam. HYPOPYRIDÆ.

HYPOPYRA, Guén.

HYPOPYRA CAPENSIS.

Hypopyra capensis, Herr.-Schäff. Samml. aussereur. Schmett. p. 79, ff. 121, 122 ; Druce, Moloney's Forestry of Western Africa, appendix v. p. 501.

One example, identical with those from the Gambia and South Africa in my collection.

Fam. OPHIUSIDÆ.

ACHÆA, Hübn.

ACHÆA ILLUSTRATA.

Achæa illustrata, Walk. Cat. xiv. p. 1392 ; Druce, Moloney's Forestry of Western Africa, appendix v. p. 501.

The specimen captured on the 18th August differs slightly from those from the Gambia and Fantee in my collection : it is slightly paler in colour, and the markings on the primaries are not so distinct, but I have no doubt it belongs to the same species, as most of the *Achææ* vary considerably.

Fam. EUSCHEMIDÆ.

PITTHEA, Walk.

PITTHEA CONTINUA.

Pitthea continua, Walk. Cat. ii. p. 463.

One specimen, that in no respect differs from examples from Lagos, Addah, Cameroons, and the Congo in my collection. This species has a wide range in Western Africa; it has not, so far as I know, yet been recorded from East Africa, its place being taken on the East Coast by *Pitthea trifasciata*, Dewitz, Nova Acta Acad. Nat. Cur. xlvii. p. 82, t. iii. f. 3.

PITTHEA AGENORIA, sp. n.

Primaries and secondaries deep black, both the wings crossed by a semihyaline white band, that on the secondaries not reaching the outer margin; the underside the same as above; the head, antennæ, thorax, abdomen, and legs deep black; the collar and the underside of the abdomen bright orange-red. Expanse $1\frac{3}{4}$ inch.

Two specimens of this very distinct species are in the collection: it is allied to *Pitthea trifasciata*, Dewitz, from which it is at once distinguished by the entire absence of the apical hyaline band on the primaries, and by the anal segments being black instead of yellow as in that species.

Fam. SPILOMELIDÆ.

ZEBRONIA, Hübn.

ZEBRONIA PHENICEALIS.

Phalaena-Pyralis Phenice, Cram. Pap. Exot. iv. p. 185, t. 382. f. G.

Zebonia fæderalis, Hübn. Verz. bek. Schmett. p. 361.

Spilomela phenicealis, Guén. Sp. gén. des Lép. viii. p. 281.

Spilomela podalirialis, Guén. Sp. gén. des Lép. viii. p. 281.

Zebonia phenicealis, Walk. Cat. xvii. p. 476; Druce, Moloney's Forestry of Western Africa, appendix v. p. 505.

One specimen, identical with those before me from the Gambia and the Cameroons.

Fam. BOTYDIDÆ.

BOTYS, Latr.

BOTYS MARGINALIS.

Phalæna-Geometra marginata, Cram. Pap. Exot. iv. p. 243, t. 400. f. I.

Botis marginata, Swains. Zool. Illustr. ii. t. 77.

Botys marginalis, Guén. Sp. gén. des Lép. viii. p. 343; Walk. Cat. xviii. p. 633; Druce, Moloney's Forestry of Western Africa, appendix v. p. 506.

Two specimens, identical with those from the Gambia, Cameroons, and Lake Nyassa in my collection.

On a Second Collection of Butterflies obtained by Mr. Edward M. de Jersey in Nyasaland. By A. G. BUTLER, Ph.D. &c.

THE present collection was sent off from Likoma on May 23rd of the present year, and consists of forty-five species of Butterflies obtained in April and May. The following is a list of the species:—

Nymphalidæ.

1. *Precis simia*, Wallgr.

♂ ♀ ♀, Matope, 13th April.

One normal female and an interesting pair (as large as typical *P. octavia*, but at once distinguishable by the double instead of single black band across the end of the discoidal cell of primaries); the absence of the diffused pink belt on the upper surface and the heavy connected black markings on the basal half of the secondaries below distinguish it at a glance from *P. Trimenii*.

2. *Precis cuama*, Hewits.

♀, Matope, 13th April.

3. *Precis cebrene*, Trimen.

♀ ♀, Likoma, 24th April and May.

4. *Precis clelia*, Cramer.

Likoma and Chisumulu (an island off Likoma), May.

5. *Precis boopis*, Trimen.

♂ ♂, Mpondas, two miles north of Nyasa, 18th April; Likoma, May.

6. *Precis natalica*, Felder.

♂ ♀, between Mandala and Matope, 12th April.

7. *Hamanumida dædalus*, Fabr.

♀ ♀, between Mandala and Matope, 12th April; Likoma, May.

8. *Atella phalantha*, Drury.

♂, Chisumulu, May.

9. *Byllia vulgaris*, Staudl.

♂, Matope, 13th April; ♀, Mpondas, 18th April; ♀, Likoma, and ♂♂, Chisumulu, May.

10. *Acræa Buxtoni*, Butl.

♂♂, Kota Kota, 20th April; ♀, Likoma; ♂♂, Chisumulu, May.

11. *Acræa lycia*, Fabr.

♀, Kota Kota, 20th April.

12. *Acræa Doubledayi*, Guérin.

♂, Mpondas, 18th April; ♂♂♀♀, Likoma, May.

13. *Acræa egina*, Cramer.

♂, Chisumulu, May.

I strongly suspect that this is the wet phase and *A. areca* the dry phase of one species.

14. *Acræa acara*, Hewits.

♂♂, Likoma, May.

Lycænidæ.

15. *Lachnocnema bibulus*, Fabr.

♂♀, between Mandala and Matope, 12th April; ♂, Mpondas, 18th April, 1899.

16. *Polyommatus læticus*, Linn.

♂, Kota Kota, 20th April.

17. *Catechrysops asopus*, Hopff.

♂, between Mandala and Matope, 12th April; ♂♀, Likoma, May.

18. *Nacaduba sichela*, Wallgr.

♂, Kota Kota, 20th April.

This species differs from the typical forms of *Nacaduba* in having no tail to the secondaries, a character which is said to be lacking in the African examples of *Talicada nyseus* (which, according to Standinger, occurs both in East and West

Africa). Considering the numerous collections which we have received from all parts of East Africa, it seems a little strange that not one example of this species should have been received; it almost makes one inclined to wonder whether the German localities are authentic. If Staudinger's illustration is correct, the species he figures is not only destitute of tails, but differs utterly in the tint of the orange patch on the secondaries; whether African or not, it *must* be a distinct species from the common and well-known Indian type, and I would suggest that it should be called *T. ecaudata*.

19. *Zizera knysna*, Trimen.

♂, Mpondas, 18th April; ♀, Kota Kota, 20th April.

20. *Zizera lucida*, Trimen.

♀, Likoma, ♂ ♀, Chisumulu, May.

21. *Tarucus telicanus*, Lang.

♂, Likoma, May.

22. *Azanus natalensis*, Trimen.

♂, between Mandala and Matope, 12th April.

23. *Plebeius trochilus*, Freyer.

♂, Likoma, May.

According to De Nicéville this is a *Chilades*.

Papilionidæ.

24. *Mylothris agathina*, Cramer.

♀, between Mandala and Matope, 12th April; ♂ ♂, Kota Kota, 20th April.

25. *Terias brigitta*, Cramer.

Var. *zoe*.—♂, Chisumulu, May.

Var. *candace*.—♂ ♂, Kota Kota, 20th April; Likoma, May.

26. *Terias senegalensis*, Boisd.

Typical form.—♀, Kota Kota, 20th April; ♂, Likoma, May.

Var. *bisinuata*.—♂ ♀, Mpondas, 18th April.

27. *Teracolus imperator*, Butler.

Dry form.—♀, Mpondas, 18th April.

The female of this phase is new to the Museum.

28. *Teracolus dissociatus*, Butler.

♂♂, Likoma, May.

We previously only possessed one male of the wet phase of this species.

29. *Teracolus pseudetrida*, Westw.

♂♀, Matope, 13th April; ♀♀, Mpondas, 18th April.

30. *Teracolus xanthus*, Swinh.

♂ (wet phase), Mpondas, 18th April.

31. *Teracolus gavis*a, Wallgr.

♀♀ (wet phase), Matope, 13th April; Likoma, May.

32. *Teracolus omphale*, Godart.

♂♂♀♀, Mpondas, 18th April.

33. *Teracolus callidia*, Grose-Smith.

♂♀, Matope, 13th April; ♀, Likoma, 26th April;
♂♂♀♀, Likoma and Chisumulu, May.

Three of the females are of the yellow-tipped type.

34. *Teracolus mutans*, Butler.

♀, Matope, 13th April; ♂, Mpondas, 18th April.

I find that the Nyasa species is undoubtedly distinct from the Natal one, that *T. mutans* is the wet phase, of which *T. rhodesina* is the intermediate, and of which I have recorded the dry phase (as probably intermediate). *T. argillaceus*, the representative of *T. vesta* in South Africa, seems to stand alone in the group as regards the colouring of the under surface in its dry phase. *T. mutans* is, in fact, the East Central representative of the more northerly *T. catachrysops*, from which it differs above in the distinctly broader and larger spots of the discal series on the upper surface of the secondaries and the different character of its intermediate and dry phases on both surfaces.

35. *Catopsilia florella*, Fabr.

♂ ♀ ♀, Kota Kota, 20th April; ♂ ♂, Likoma, May.

All the specimens of this species had evidently been long on the wing and were much worn and shattered.

36. *Belenois severina*, Cramer.

Var. *infida*.—♀, Matope, 13th April.

37. *Belenois mesentina*, Cramer.

♂ ♂ ♀, Mpondas, 18th April; ♀ ♀, Kota Kota, 20th April; ♂ ♂ ♀ ♀, Likoma and Chisumulu, May.

One pair from Mpondas consisted of mere fragments, but all the others were in tolerably good condition.

38. *Herpænia eriphia*, Godart.

♀ ♀, Likoma, ♂ ♂, Chisumulu, May.

39. *Papilio demodocus*, Esper.

♂ ♂ ♀, Kota Kota, 20th April.

Hesperiidæ.

40. *Tagiades flesus*, Fabr.

♀, Kota Kota, 20th April.

41. *Pyrgus spio*, Linn.

♂, Likoma, May.

42. *Oxypalpus ruso*, Mab.

♂ ♂, Likoma, May.

43. *Baoris inconspicua*, Bertol.

♂ ♀, Kota Kota, 20th April; ♂ ♂, Chisumulu, May.

44. *Parnara mathias*, Fabr.

♂ ♂, Mpondas, 18th April; Kota Kota, 20th April.

45. *Parnara delecta*, Trimen.

♂, Kota Kota, 20th April.

An Account of a Collection of Butterflies made by the Rev. K. St. Aubyn Rogers between Mombasa and the Forests of Taveta. By ARTHUR G. BUTLER, Ph.D., F.L.S., F.Z.S., &c., Senior Assistant-Keeper, Zoological Department, British Museum (Nat. Hist.).

IN a letter sent from Mombasa, July 13th, 1900, Mr. Rogers writes:—"I have been collecting butterflies here for some time, and have been recommended by Mr. R. Crawshay to send you some specimens in case any of them may be of interest to you. I do not suppose you will find them of any great value, as the greater part of them have been taken so near the coast, the few from up-country being either from Taveta or on the road there. I regret there are so few, but I have already sent the greater part of my collections there to the Royal Institution of Cornwall.

"Most of the species I send you are common generally, but I append a few notes as to those which I have not taken so commonly." Then follow notes upon many of the species.

In spite of Mr. Rogers's modest opinion of this collection, I have found it of considerable interest; it consists of ninety-seven species, some poorly represented in the Museum collection, others quite new to us. One local form I have had to name, its differences from its southern representative being clearly quite constant.

The species from Taveta seem all to be referable to dry or intermediate phases, those from Mombasa chiefly, if not altogether, to the wet phase.

Nymphalidæ.

1. *Amauris ochlea*, Boisdu.

♀, Mombasa, 30th December, 1899.

2. *Amauris dominicanus*, Trimen.

♂♂, Taveta, 11th November, 2nd and 5th December, 1899; Mombasa, 2nd May, 1900.

3. *Limnas chrysippus*, var. *dorippus*, Klug.

♂, Mombasa, 7th May, 1900.

4. *Samanta perspicua*, Trimen.

♂♂, Taveta, 4th and 22nd August, 28th November, 1899; locality illegible, 28th April, 1900.

The examples obtained at Taveta are all of the dry-season phase (but not yellow above as in *S. Simonsi*); the April example is of the wet phase.

5. *Monotrichis sufista*, Hewits.

♂, Mombasa, 12th July, 1900.

A curious variety with five ocelli on under surface of primaries, the first, third, and fourth small, the second only slightly larger, the fifth as large as usual.

6. *Neocænura duplex*, Butler.

♂, Taveta, 11th December, 1899.

"Common between Voi and Taveta" (*St. A. Rogers*).

7. *Phycænura leda*, Gerst.

♂♀, Chaengombe, 23rd April, 1900.

"Common at Rabai, but not at Mombasa" (*St. A. R.*).

8. *Ypthima granulosa*, Butler.

♂, Mombasa, 22nd February, 1900.

9. *Charaxes brutus*, Cramer.

♀, Taveta, 4th September, 1899.

"Fairly common at Taveta, but difficult to get in good condition" (*St. A. R.*).

10. *Charaxes rosæ*, Butler.

♂, Taveta, 7th September, 1899.

The same note applies to this as to the preceding species; we should be glad to get more females of this species; they can at once be distinguished by the broad white belt across both front and hind wings and the distinct white spots on the former; the males of this and *C. manica* are much alike and liable to be confounded; *C. rosæ*, however, has distinctly broader and less falcate primaries.

11. *Charaxes neanthes*, Hewits.

♂, Taveta, 9th September, 1899.

"Occurs fairly frequently beyond Voi" (*St. A. R.*).

12. *Charaxes varanes*, Cramer.

♂, Mombasa, 20th June, 1900.

13. *Precis cloantha*, Cramer.

♀, Rabai, 6th June, 1900.

"This occurs widely, but I have never found it common" (*St. A. R.*).

14. *Precis elgiva*, Hewits.

Taveta, 15th July and 5th August, 1899.

15. *Precis cebrene*, Trimen.

♂, Taveta, 17th July; ♀, 7th October, 1899; ♂ ♂ ♀, Mombasa, 7th May, 11th June; ♀, Inn Town, 2nd June, 1900.

16. *Precis clelia*, Cramer.

♀, Taveta, 22nd August, 1899; ♂ ♀, 4th and 16th January, 1900.

17. *Precis boopis*, Trimen.

♂ ♂ ♀ ♀, Mombasa, 6th to 8th May, 1900.

18. *Protogoniomorpha nebulosa*, Trimen.

♂, Mombasa, 20th June, 1900.

19. *Pyrameis cardui*, Linn.

♂, Mombasa, 8th May, 1900.

20. *Panopea expansa*, Butler.

(? Frere) town, 30th June, 1900.

"I have only met with this twice, both in bad condition: mimics *Amauris ochlea*" (K. St. A. R.).

21. *Euralia deceptor*, Trimen.

♀, Mombasa, 23rd June, 1900.

"This is not common and is very like *Amauris ochlea*. I wish I could send you a better specimen" (K. St. A. R.).

22. *Euralia Wahlbergi*, Wallgr.

♀ ♀, Rabai, 6th and 8th June, 1900.

"This also seems rare; it is a very close mimic of *A. dominicanus*" (K. St. A. R.).

23. *Hypolimnys misippus*, Linn.

♀, Mombasa, 20th April, 1900.

24. *Hamanumida dædalus*, Fabr.

♂, Chaengombe, 23rd April, 1900.

"Does not seem common near coast, but much more so up-country" (K. St. A. R.).

25. *Euphædra violacea*, Butler.

♂ ♂, Taveta, 11th November and 5th December, 1899.

26. *Euphædra neophron*, Hopff.

♀, Chaengombe, 23rd April; ♂, Mombasa, 19th May; ♂, Rabai, 8th June, 1900.

It is quite evident that this and *E. violacea* never occur together; it seems likely that the blue of freshly-caught *E. neophron* undergoes a chemical change with age and becomes green; the colour of *E. violacea*, however, appears to be permanent.

27. *Euryphene senegalensis*, Herr.-Sch.

♂ ♂ ♀ ♀, Rabai, 6th and 8th June, 1900.

"Quite common at Rabai" (K. St. A. R.).

28. *Neptis agatha*, Cramer.

♂ ♀, Rabai, 7th and 11th June; ♂, Mombasa, 16th June, 1900.

29. *Eurytela dryope*, Fabr.

♀, Mombasa, 27th June, 1900.

30. *Hypanis lithyia*, Drury.

♂, Mombasa, 7th January; ♀, 30th June, 1900.

31. *Acræa Jacksoni*, E. M. Sharpe.

♂, Taveta, 11th November, 1899.

"This I have also taken commonly beyond Voi" (K. St. A. R.).

32. *Acræa serena*, Fabr. (var. *perrupta*, Butler).

♀ ♀, "Frere Town?", 2nd June; Rabai, 6th June; Mombasa, 7th July, 1900.

"This is very common, but seems to vary a great deal" (K. St. A. R.).

Strangely enough Mr. Rogers has sent us six females of this abundant species, all differing, but not one male.

33. *Acræa lycia*, Fabr.

♂ (typical form), Taveta, 7th October, 1899.

♂ (var. *daira*), Taveta, 9th September, 1899; ♀, Mombasa, 11th March, 1900.

34. *Acræa onerata*, Trimen.

♂, Taveta, 22nd August, 1899; ♂ ♀, Mombasa, 22nd June, "Frere? Town," 12th May, 1900.

The male from Taveta is small, deep-coloured, and has the spotted black body of the ordinary female, yet the spots on the under surface do not differ; it is probably the dry phase of the species. Mr. Rogers says of it—"I have not seen this near the coast, but it is abundant the other side of Voi"; of the typical form he says—"Fairly common at Mombasa."

35. *Acræa natalica*, Boisd.

♂ ♂, Mombasa, 8th May; Rabai, 9th June, 1900.

36. *Acræa anemosa*, Hewits.

♀, Mombasa, 1st February; ♂, 4th July; ♂, Rabai, 9th June, 1900.

37. *Acræa neobule*, Doubl.

♀, Mombasa, 15th February; ♂, "Frere?" Town, 17th February, 1900.

38. *Acræa insignis*, Dist.

♀, Mombasa, 27th April, 1900.

"This is the first specimen I have met with" (*K. St. A. R.*).

39. *Acræa satis*, Ward.

♂, Rabai, 8th June; ♀, Mombasa, 20th June, 1900.

Of the female Mr. Rogers says:—"I have not found this really common." The female is numbered 78, but the male 37, so that their specific identity seems not to have been recognized.

40. *Acræa mombasæ*, H. G. Smith.

♀, Rabai, 9th June, 1900.

"This is fairly common at Rabai, and occurs sometimes at Mombasa" (*K. St. A. R.*).

Unfortunately Mr. Rogers only sent us one example; it is a species not too well represented in the Museum series.

41. *Pardopsis punctatissima*, Boisd.

"Frere?" Town, 28th April, 1900.

Lycænidæ.42. *Tingra amenaïda*, var. *mombasæ*, H. G. Smith.

♂, Rabai, 8th June, 1900.

"This flies quite slowly; quite unlike a Blue" (*K. St. A. R.*).

43. *Lachnocnema bibulus*, Fabr.

♂, Taveta, 8th December, 1899; ♀, Rabai, 8th June, 1900.

Of the male Mr. Rogers writes:—"This curious Blue is quite common in a district of Taveta called Mbondoni, where it flies rapidly backward and forward, and frequently settles." Of the female he mentions having taken "a single specimen."

44. *Æxiocerses harpax*, Fabr.

♂, Rabai, 11th June; ♀, Mombasa, 4th July, 1900.

Var. *tjoane*, Wallgr.

♂ ♂, Chaengombe, 23rd April; Rabai, 6th and 7th June; Mombasa, 23rd June.

Two examples of the variety are numbered (8), like the typical form, and two (180). *A. harpax* appears to be an extremely variable species, the fiery mahogany colouring of the primaries being somewhat reduced in var. *perion*, more so in var. *tjoane*, and wanting or nearly so in var. *punicea*. Similar variations occur in the males of *A. amanga*, examples from Abyssinia having the belt on the primaries narrowed and interrupted, whilst in British Central Africa it is usually cone-shaped, with a separate spot for the apex of the cone, and does not extend above the second median branch; nevertheless we have one normal male from Nyasaland.

Another example is also numbered (180), and is doubtless a form of var. *cræsus* with the basal area of the primaries very black, so that the central reddish area represents a narrow and irregular tapering band, divided externally below the first median branch by a transversely oblique black bar; this specimen was caught at Rabai on the 8th June.

45. *Axiocerses amanga*, Westw.

♂ ♂, "Frere?" Town, 12th May; Rabai, 8th June, 1900. Mr. Rogers numbers this (159), and remarks as follows:—"I am afraid there is some confusion amongst these: (8) is common, (159) is not common, but occurs both at Rabai and here; (180), if distinct?, I think only occurs at Rabai."

Considering the variability of the primaries in both *A. harpax* and *A. amanga*, it is not surprising that confusion should have arisen. I strongly suspect that *A. mendeche* from Mombasa is only an example of *A. amanga* in which the belt on the primaries is bounded by vein 4, which I should imagine is the vein indicated in the description; as a rule when this is the case the band is converted into a conical patch, but this appears not to be the case in the type of *A. mendeche*.

46. *Argiolaus lalos*, var., H. H. Druce.

♀, Chaengombe, 23rd April, 1900.

The white patches on the upper surface are rather smaller, the red more vivid and rather more restricted on the secondaries: below, the red markings are deeper, the anal patch extending further inwards; the black markings stronger and only extending to the second median branch. I think this will prove to be only a well-nourished example of *A. lalos*.

Mr. Rogers says that it "does not seem really common." We do not possess the male, and should be very glad to get more females.

47. *Stugeta Bowkeri*, Trimen, local form *mombasæ*.

♂ ♂, Mombasa, 7th and 10th February; ♀, 19th May, 1900.

These examples are larger and bluer than those from Natal; the black on the primaries is also expanded, reducing the size of the white markings. On the under surface the ground-colour is chalky white, with hardly any grey suffusion, the dark markings are of a more rufescent brown varied with orange. As a local form I think this insect requires a distinctive name.

48. *Hypolycæna philippus*, Fabr.

♂, Mombasa, 3rd January, 1900.

I am not sure that the African species are typical *Hypolycæna*.

49. *Hypolycæna pachalica*, Butler.

♂, Mombasa, 28th December, 1899.

50. *Virachola antalus*, Hopff.

♀ ♀, Taveta, 28th October, 1899; Rabai, 9th June, 1900.

51. *Virachola dariaves*, Hewits.

♂, Chaengombe, 23rd April, 1900.

Numbered (166) by Mr. Rogers, who, however, sends no note respecting it; it is rare in collections here, and we should be glad to get more specimens; we do not possess the female.

52. *Spindasis victoriæ*, Butler.

♂, Rabai, 11th June, 1900.

"This is not uncommon at Rabai; occurs here, but seems to be replaced further inland by (138)" (*K. St. A. R.*).

This is the first male example I have seen; on the upper surface it is intermediate between *S. natalensis* and *S. nyassæ*: on the under surface the primaries resemble those of *S. nyassæ*, but on the secondaries the central band is united at an angle with that running from the abdominal margin; the subapical transverse band is abruptly widened on first subcostal branch, and runs nearly parallel to the central band, and the outer

submarginal band is much abbreviated and confined to the apical area : these are all characters to be found in the female also. Although it has been questioned whether the three forms *S. natalensis*, *nyassæ*, and *victoriæ* can be distinguished as species, I find that, so far as specimens hitherto received show, the differences are constant to locality.

53. *Lycænesthes amarah*, Lefebv.

♀ ♀, Mombasa, 7th February and 3rd July; ♂, 4th July, 1900.

54. *Lycænesthes Lasti*, H. G. Smith.

♂, Chaengombe, 23rd April; ♀, 11th June, 1900.

This species (no. 163) is new to the Museum collection; the female bears the number (55).

55. *Lycænesthes Kersteni*, Gerst.

♂ ♂ ♀ ♀, Taveta, 14th October, 25th November, and 4th and 8th December, 1899.

The males are numbered (148) and the females (122).

56. *Cacyreus lingeus*, Cramer.

♀ ♀, Mombasa, 14th and 27th June, 1900.

57. *Castalius melæna*, Trimen.

♂ ♀, Taveta, 12th August and 17th October, 1899.

"I think I have only found this at Taveta, where it is common" (*K. St. A. R.*).

We should be glad of more specimens of this species.

58. *Tarucus telicanus*, Lang.

♂, Taveta, 18th August, 1899; ♀ ♀, Mombasa, 14th June and 20th July, 1900.

59. *Azanus jesous*, Guérin.

♂, Mombasa, 20th June, 1900.

60. *Catochrysops peculiaris*, Rogenh.

♀, Mombasa, 12th July, 1900.

A singularly white form of the female, belonging to the intermediate phase. Mr. Rogers observes that "the female is much larger than the male, which is also duller and bluish

grey." The male of this phase is quite unknown to me; it would seem to resemble typical *C. peculiaris* ♂ in size and *C. hypoleucus* ♂ in colour. It is an interesting fact (if I am correct in associating *C. hypoleucus* = *gigantea* with *C. peculiaris*) that the wet phase is tailed, but the intermediate and dry phases are without tails; yet in *Chrysophanus thersamon* we have a tailed form—*C. omphale*—and in a small *Everes* obtained by the late Capt. E. Y. Watson in the Chin Hills the presence or absence of tails appeared to be quite unimportant, so that it seems to me quite likely that the tailed form of the wet season might easily be modified in this respect and the species lose its tails with the reduction in the size of its wings.

61. *Catochrysops asopus*, Hopff.

♀, Mombasa, 23rd June, 1900.

This example bore no collector's number; it may, perhaps, have been confounded with the female of the next species.

62. *Catochrysops osiris*, Hopff.

♂ ♂ ♀ ♀, Mombasa, 30th December, 1899; 16th January and 17th February, 1900.

63. *Chilades trochilus*, Freyer.

♂ ♀, Mombasa, 8th March, 1900.

64. *Cupidopsis jobates*, Hopff.

♀, Taveta, 14th July; ♂ ♂ ♀ ♀, Mombasa, 28th and 30th December, 1899, and 3rd January, 1900.

65. *Nacaduba sichela*, Wallgr.

♀ ♀, Mombasa, 16th and 20th June, 1900.

"I do not think this is common here" (*K. St. A. R.*).

66. *Zizera knysna*, Trimen.

♂ ♂, Mombasa, 16th June and 4th July, 1900.

Numbered respectively (15) and (85), but they are only small and large examples.

Papilionidæ.

67. *Mylothris agathina*, Cramer.

♂ ♀, Mombasa, 12th May; ♀, 7th July, 1900.

68. *Terias brenda*, Doubl.

♂, Taveta, 4th December, 1899.

69. *Teracolus calais*, Cramer.

♀, Mombasa, 27th June, 1900.

70. *Teracolus Rothschildi*, E. M. Sharpe.

♂ ♂, Mombasa, 23rd June and 7th July, 1900.

"I have only found this quite close to the sea, generally quite on the shore, where it is often common" (K. St. A. R.).

It is new to the Museum collection.

71. *Teracolus imperator*, Butler.

♀, Mombasa, 30th January; ♂, 12th July, 1900.

The male is numbered (10) and the female (80).

72. *Teracolus evarne*, Klug.

♀, Mombasa, 20th June; ♂, 12th July, 1900.

The male is numbered (4) and the female (61).

73. *Teracolus isaura*, Lucas.

♂, Mombasa, 30th December, 1899.

This is a more southern habitat than I should have expected for *T. isaura*, which is a true northern form, found in Egypt, the White Nile, and Abyssinia.

74. *Teracolus gavis*a, Wallgr.

♀, Rabai, 9th June, 1900.

Mr. Rogers says that this was obtained at Rabai only.

75. *Teracolus callidia*, H. G. Smith.

Ochreous type.—♀, Taveta, 12th August; ♂, 29th November, 1899.

Crimson type.—♀, Mombasa, 28th December, 1900.

Said to be "common beyond Voi, not at Mombasa."

The specimens from Taveta are of the intermediate phase, that from Mombasa of the wet phase; the male is numbered (119), the females (2) and (2 var.).

76. *Teracolus leo*, Butler.

Intermediate phase.—♀, Taveta, 28th July, 1899.

Dry phase.—♂, 4th August; ♀, 28th October, 1899.

"Beyond Voi" (*K. St. A. R.*).

The more specimens of this species we receive the more convincingly is it proved that all the characters which distinguish it from the Arabian *T. halimede* are constant and absolutely reliable.

77. *Teracolus aurigineus*, Butler.

♂ ♂, Taveta, 19th August, 1899.

"Common beyond Voi, not at Taveta" (*K. St. A. R.*).

78. *Teracolus catachrysops*, Butler.

♂, Mombasa, 14th June, 1900.

The males of this well-marked species have come to hand tolerably frequently of late years; but the females seem to be rarer, more especially the white variety. Mr. Rogers numbers this insect (153), but makes no remark about it, from which fact I should judge that it cannot be rare at Mombasa. I should be very glad to get more examples, especially females.

79. *Catopsilia florella*, Fabr.

♀, Mombasa, 11th June; ♂, 7th July, 1900.

80. *Glutophrissa contracta*, Butler.

♀, Chaengombe, 23rd April; ♂, Mombasa, 16th June, 1900.

The male is numbered (97), the female (100).

81. *Herpænia eriphia*, Godart.

♀, Taveta, 26th July, 1900.

"This is fairly common here, but much more so further up country" (*K. St. A. R.*).

82. *Eronia dilatata*, Butler.

♂, Mombasa, 23rd February, 1900.

83. *Papilio corinneus*, Bertol.

♀, Mombasa, 19th May, 1900.

84. *Papilio similis*, Cramer.

♂, Chaengombe, 23rd April, 1900.

85. *Papilio philonoe*, Ward.

♂, Mombasa, 27th June, 1900.

We are badly in want of good examples of this species.

86. *Papilio constantinus*, Ward.

♂, Chaengombe, 23rd April, 1900.

"I have never found this common, though widely distributed" (*K. St. A. R.*).

87. *Papilio nireus*, Linn.

♂, Rabai, 7th June, 1900.

88. *Papilio merope*, Cramer.

♂, Rabai, 8th June, 1900.

"Difficult to get in good condition" (*K. St. A. R.*).

Hesperiidæ.

89. *Tagiades flesus*, Fabr.

♂, Mombasa, 16th June, 1900.

90. *Pyrgus dromus*, Plötz.

Rabai, 7th June; Mombasa, 7th July.

91. *Parosmodes icterica*, Mab.

Rabai, 6th June, 1900.

"Only seen at Rabai" (*K. St. A. R.*).

92. *Acleros placidus*, Plötz.

Rabai, 8th June, 1900.

This is very nearly related to *A. Mackenii*; indeed it would not surprise me to find that with a good series it would be impossible to separate them.

93. *Andronymus philander*, Hopff.

Rabai, 9th June, 1900.

94. *Kedestes Wallengrenii*, Trimen.

Rabai, 6th and 9th June, 1900.

"Only seen at Rabai" (*K. St. A. R.*).

95. *Baoris lugens*, Hopff.

Mombasa, 20th June and 4th July, 1900.

96. *Parnara mathias*, Fabr.

♂ ♀, "Frere?" Town, 2nd and 30th June, 1900.

The male is numbered (182), the female (170).

97. *Ceratrachia? stellata*, Mab.

♂, Rabai, 7th June, 1900.

It has been suggested by Dr. Holland that my *C. punctulata* may be a variety of this species; but I think, if he could compare the two, he would alter this, I will not say *opinion*—for he does not speak with decision,—but perhaps *view* would be the word to use. *C. punctulata* is a more robust species, without chequered but with spotted fringes, and with no ochreous colouring below; the spots on the under surface are chalky white without dark borders and the veins are whitish.

*Descriptions of new Species of Lycænidæ in the Collection of
the British Museum.* By A. G. BUTLER, Ph.D.

THE following are all species which I have been unable to name during my recent study of the family, or which have been received subsequently.

Epitola divisa, sp. n.

Nearly related to *E. honorius* (*teresa*, Hewits.), but the male above with narrower subapical blue bar and more extended dull band on the primaries; secondaries shorter, more rounded; under surface rather paler; the white macular band beyond cell narrow and not continued to outer margin, the last two spots being thrown outward to the margin and conical in shape; in the secondaries the basal orange suffusion is brighter and more extended. The female differs notably from that sex of *E. honorius*, the oblique white belt of that species being continued across the wing to the submedian vein, its outer margin regularly arched, its inner margin acutely angled; the blue-green submedian streak is widened and extended right up to the white belt; the secondaries show a more restricted green streak and no trace of white. On the under surface the apex of primaries and whole surface of secondaries are paler and more testaceous, the white belt on the primaries extending inwards to submedian vein as above; the basal area of the secondaries is ochreous instead of reddish clay-coloured, the transverse whitish stripe is sometimes absent and the internervular streaks are thickened.

Expanse of wings, ♂ 53, ♀ 52-56 millim.

♂, Sierra Leone (*W. F. Woods*); ♀, Bandajuma (May to November 1898), wet season (*G. J. Arnold*); ♀, Cape Coast Castle. B. M.

Virachola zeloides, sp. n.

Rapala zela, Butler (not Hewitson), P. Z. S. 1896, p. 832.

♂. Differs from *V. zela* in its fuller, broader wings, much paler colouring above and paler much wider bands below: the primaries above are dull greenish steel-blue, with dark brown fringes; the secondaries clear dead smalt-blue, with ashy-brown abdominal border: the under surface is ashy brownish ("dust-coloured"), with slightly darker whitish-edged bands, much broader and rather more irregular than in *R. zela*; the usual subanal spots are smaller, more rounded, more clearly defined, and more besprinkled with silvery-blue scales than in *R. zela*.

Expanse of wings 35 millim.

Kesungu Mountain, Nyika, 5345 feet, Feb. 29th. 1896.

We have *V. zela* from Sierra Leone collected by Mr. E. E. Austen.

Spindasis minima, sp. n.

♂. Probably nearest to *S. lilacina*; but very distinct from all known species. Upper surface greyish brown, faintly

glossy; base of wings slightly more dusky, internal areas slightly ashy, fringes ashy grey; secondaries with a well-defined straw-coloured anal patch enclosing two silver-speckled black spots; tails black, tipped with white; head and collar brown, eyes encircled by a whitish line; thorax blackish, clothed with blue-greyish hair, patagia edged with brownish; abdomen purplish brown, segmental margins white towards base, straw-coloured towards anal extremity; antennæ and palpi normal. Under surface creamy white; bands broad, many of them contiguous, pale buff with dull silver central spots or lines and with sepia-brown margins; excepting that the bands are much more crowded together, their general disposition is that of *S. fusca*; the anal area of the secondaries is pale buff with the anal black spots well defined: body below white, slightly buffish on the abdomen.

Expanse of wings 23 millim.

Puttalam, Ceylon (*J. Pole*).

Catochrysops phasma, sp. n.

Above grey-brownish, suffused with pale lilac; outer borders smoky brown, veins brownish; the discocellulars marked by the usual narrow transverse bar; secondaries with one subanal ocellus, black capped with ochreous and with white outer edge, a well-defined white-tipped black tail at extremity of first median branch; body normal: under surface whity brown as in *C. patricia*, but the pattern agrees closely with that of *C. celæus*.

Expanse of wings 37-43 millim.

♂♂, Lagos (*Dr. H. Strachan*); Ashanti, between Cape Coast Castle and Kumassi, in January and February (*Capt. Hon. Grosvenor Hood*).

The tails to the secondaries of this species bring it nearest to *C. patricia*, but the tint of the upper surface separates it from all species known to me, though perhaps most nearly approaching that of *C. celæus*, ♀; its female should be very like the latter excepting for the tail.

Catochrysops Carsoni, sp. n.

♂. Allied to *C. patricia*, the primaries more acute at apex; the secondaries with a bilunate orange bar enclosing the usual black spots: under surface whity brown, with slightly darker white-edged macular bands, much more uniform in character than in *C. patricia*, the white hastate spots on the secondaries reduced in size, merely forming an inner series of white submarginal lunules; black anal spots with broad united orange zones as above.

Expanse of wings 41 millim.

Kwambo, Tanganyika (*A. Carson*).

Chilades Alberta, sp. n.*Catochrysops cyclopterus*, Butler, P. Z. S. 1888, p. 68.

♂. Wings above ashy brownish, brightly shot with lilac; borders and veins smoky brown, discocellulars and fringe also smoky brown; secondaries with a submarginal row of smoky brown spots, the last but one (near anal angle) blackish, the last three spots with white outer edges; the fringe of primaries towards external angle and that of secondaries with whitish basal line; body normal: under surface much as in *Euchrysops cyclopterus*, excepting that the last three submarginal spots on the secondaries are surmounted by orange zones, the last spot short and linear. The female is larger and bluer than the male, with well-defined blackish outer border and discocellular dash on primaries; the costal borders of all wings broadly dusky; the secondaries with conspicuous orange zones to the last three submarginal spots on the upper surface: the under surface is whiter than in the male, the markings somewhat reduced in size and less conspicuous.

Expanse of wings, ♂ 27, ♀ 30 millim.

♂, Tamaja, Equatorial Africa, 6th August; ♀, Nadada, 16th June (*Emin Pasha*).

Iraota Nicevillei, sp. n.

Iraota mæcenus, Moore, Lep. Ceylon, i. p. 102, pl. xl. figs. 2, 2 a, ♀ (1880-81).

This species differs from the true *I. mæcenus* (dry phase of *I. timoleon*) in the much more restricted and metallic *Morpho*-like colouring of the patches of colour on the upper surface. According to Moore these patches are metallic blue; but it would be more correct to call them green, as it is difficult to get them so placed as to eliminate all yellow from the blue; and, when facing the light, the colouring is glittering metallic green. On the under surface the differences are not striking between the two species, but the white discoidal markings are less silvery in the Ceylonese insect and the discal white lunules on the primaries are reversed, their concavities being directed towards the base instead of the outer margin. Our examples, which are females, differ from the rich purple females of *I. timoleon* in their longer secondaries with more slender tails; indeed, in their general aspect they more nearly resemble the male than the female of *I. timoleon*.

Expanse of wings 39-45 millim.

Ceylon (*Mrs. Lindesay and F. M. Mackwood*). B. M.

Catalogue of Lepidoptera collected by Mr. S. N. Walter in the Island of Billiton. Rhopalocera by F. D. GODMAN and OSBERT SALVIN; Heterocera by H. DRUCE.

(Plate XL.)

RHOPALOCERA.

That the Rhopalocerous fauna of Billiton should largely partake of the character of that of the surrounding islands of Sumatra, Java, and Borneo, and of the peninsula of Malacca was to be anticipated. Of the thirty-three species represented in this collection (which was made in Billiton by Mr. S. N. Walter, and has been sent to us by Lord Tweeddale for examination), all but one are well-known forms from one or all of these islands. The single exception, the *Myrina*, described below, has, so far as is at present known, its sole representative in a nearly allied species from Tenasserim, also described in the present paper.

The differential elements of the Butterfly faunas of Borneo, Sumatra, Java, and Malacca have not yet been traced with sufficient precision to enable us to say to which of the four localities the island of Billiton has most affinity. With Borneo it is certainly very closely allied; but it possesses several species in common with Java, and others with Malacca. Unfortunately our series of Sumatran Butterflies is not very complete; but, so far as we can see, many species are also found in that island, geographically its nearest neighbour.

Fam. NYMPHALIDÆ.

Subfam. DANAINÆ.

1. HESTIA CLARA.

Hestia clara, Butl. Trans. Ent. Soc. ser. 3, v. p. 469.

? *Hestia leuconoe*, Druce, P. Z. S. 1873, p. 337.

A single female specimen, agreeing with Mr. Butler's types in the British Museum. The species also occurs in Borneo, whence we have an example of the same sex. Its occurrence in Java is doubtful.

2. DANAIS PHILOMELA.

Euplœa philomela, Zink. Nov. Act. Ac. Nat.-Cur. xv. p. 184, pl. 16. f. 17; Druce, P. Z. S. 1873, p. 337.

Agrees with Malaccan and Bornean examples.

3. DANAIS SIMILIS.

Papilio similis, Linn. Syst. Nat.

Danaïs similis, Druce, P. Z. S. 1873, p. 338.

Identical with Malaccan and Javan examples.

4. DANAIS JUVENTA.

Papilio juvena, Cr. Pap. Ex. pl. 188. f. B.

Danaïs juvena, Druce, P. Z. S. 1873, p. 337.

Agrees with Bornean specimens.

5. DANAIS HEGISIPPUS.

Papilio hegisippus, Cr. Pap. Ex. t. 180. f. A.

Agrees with Malaccan specimens.

6. DANAIS CHRYSIPPUS.

Papilio chrysippus, Linn. Cr. Pap. Ex. t. 118. f. B, C.

Identical with specimens of this widely dispersed species.

7. EUPLŒA MÉNÉTRIÉSI.

Euplœa ménétriésii, Feld. Wien. ent. Mon. iv. p. 398; Druce, P. Z. S. 1873, p. 338.

Agrees with specimens thus named in the British Musium.

8. EUPLŒA BREMERI.

Euplœa bremeri, Feld. Wien. ent. Mon. iv. p. 398; Druce, P. Z. S. 1873, p. 338.

Found also in Borneo and Malacca.

9. EUPLŒA THOOSA.

Trepsichrois thoosa, Hübn. Ex. Schmett. t. viii.

Agrees very well with Hübner's figure, being also identical with Malaccan specimens.

10. EUPLŒA MULCIBER.

Papilio mulciber, Cram. Pap. Ex. t. 127. f. C, D; Druce, P. Z. S. 1873, p. 338.

Also a Bornean species.

Subfam. ELYMNIINÆ.

11. ELYMNIA NIGRESCENS.

Elymnias nigrescens, Butl. P. Z. S. 1871, p. 520, t. 42. f. 1; Druce, P. Z. S. 1873, p. 340.

A female specimen agreeing with Bornean examples of the same sex.

12. ELYMNIA LAIS.

Papilio lais, Cr. Pap. Ex. t. 110. f. A, B.

Elymnias lais, Druce, P. Z. S. 1873, p. 340.

Also found in Borneo and Java.

Subfam. MORPHINÆ.

13. AMATHUSIA PHIDIPPUS.

Papilio phidippus, Linn. Syst. Nat.

Amathusia phidippus, Druce, P. Z. S. 1873, p. 340.

Both sexes of this widely ranging species.

14. ZEUXIDIA HORSFIELDI.

Zeuxidia horsfieldi, Feld. Voy. Nov. Lep. p. 460, t. 62. f. 4;
Druce, P. Z. S. 1873, p. 340.

Agrees with Bornean specimens.

Subfam. NYMPHALINÆ.

15. CYNTHIA DEIONE.

Cynthia deione, Erichs. Nov. Act. Ac. Nat.-Cur. xvi. Suppl.
t. 50. f. 2, 2 a.

Cynthia arsinoe, Druce, P. Z. S. 1873, p. 342 (nec Cramer).

Agrees with this widely-ranging species, of which we have specimens from Java, Malacca, Borneo, and the Philippine Islands.

16. JUNONIA LAOMEDIA.

Papilio laomedia, Linn. Syst. Nat. i. p. 772.

Junonia laomedia, Druce, P. Z. S. 1873, p. 342.

A widely-distributed species, occurring throughout the Indo-Malayan subregion.

17. JUNONIA IDA.

Papilio ida, Cr. Pap. Ex. t. 42. f. C, D.

Junonia ida, Druce, P. Z. S. 1873, p. 342.

Agrees with Javan, Bornean, and Philippine-Islands specimens.

18. NEPTIS ACERIS.

Papilio aceris, Lepechin, Tageb. d. Reise Russ. Reich. i. p. 203,
t. 17. f. 5.

Neptis aceris, Druce, P. Z. S. 1873, p. 344.

A single specimen of this very widely-distributed species.

19. TANAËCIA, sp. ?

A single specimen of a species of this genus which we have not been able to determine.

20. ADOLIAS, sp. ?

Agrees with a Malaccan specimen of an unnamed species in our collection. Others from the same locality in the British Museum, have a MS. name of Mr. Butler's attached to them.

21. SYMPHÆDRA DIRTEA.

Papilio dirtea, Fabr. Ent. Syst. iii. p. 59.

Symphædra dirtea, Butl. P. Z. S. 1868, p. 613; Druce, P. Z. S.
1873, p. 346.

Adolias boisduvali, Bdv. Sp. Gén. t. 8. f. 2.

A male agreeing with Sumatran and Bornean examples.

22. *CHARAXES SCHREIBERI*.

Nymphalis schreiber, Godt. Enc. Méth. ix. p. 825.

Charaxes schreiberi, Druce, P. Z. S. 1873, p. 346.

Found also in Java and Borneo.

Fam. LYCÆNIDÆ.

23. *MYRINA NIVEA*, sp. n. (Plate XL. figs. 3, 4.)

♀. Exp. 2·2 inches. Secondaries with projection at the anal angle and a long tail on the first median branch; outer margin slightly dentate, pure white; outer margin of primaries black, blending into a delicate blue in the apex, the blue colour extending along the costal margin; a black spot between the median branches of the secondaries and a faint black submarginal line on the same wings. Beneath pure white, both wings crossed with five concentric bands, consisting of confluent spots, each enclosed in a faint dark line; a submarginal black line to both wings; the black spot of the upper surface between the median branches of the secondaries is mostly blue; and there are two blue spots near the margin, one between the submedian nervure and the first median branch, and one at the anal angle.

Hab. Billiton Island.

Mus. nostr.

This beautiful species, of which there is only a single female specimen in the collection, seems to belong undoubtedly to the genus *Myrina*, as defined by Westwood (D. W. & H. Gen. Diurn. Lep. ii. p. 475). In coloration it is quite distinct from any hitherto described member of the genus. We have, however, since received from Mr. A. O. Hume an example of a closely allied species, which was taken at Meetan in Burma. This is also a female, and we describe it as follows:—

MYRINA HIEMALIS. (Plate XL. figs. 5, 6.)

Exp. 2·2 inches. In shape exactly like *M. nivea*, the dark apex of the primaries more extensive and the inner edge of this dark mark with two prominent indentations instead of being simply curved; beneath, the bands of the wings are better defined, and the dark marginal lines of each band enclose a greyish space, whereas in *M. nivea* the inside of the spots forming the bands is white.

Hab. Meetan, Burma.

Mus. nostr.

Fam. PAPILIONIDÆ.

Subfam. PIERINÆ.

24. *CALLIDRYAS CATILLA*.

Papilio catilla, Cr. Pap. Ex. t. 55. f. C, D.

Callidryas catilla, Druce, P. Z. S. 1873, p. 355.

A widely ranging species found in Borneo and elsewhere.

25. *TERIAS*, sp. ?

A bad specimen.

26. TERIAS HECABE.

Papilio hecabe, Linn. Syst. Nat. i. p. 763.

Terias hecabe, Druce, P. Z. S. 1873, p. 354.

A widely ranging species, also found in Borneo.

Subfam. PAPILIONINÆ.

27. PAPILIO ANTIPHATES.

Papilio antiphates, Cr. Pap. Ex. t. 72. f. A, B; Druce, P. Z. S. 1873, p. 357.

Agrees with Bornean specimens.

28. PAPILIO SARPEDON.

Papilio sarpedon, Linn. Syst. Nat. i. p. 747; Druce, P. Z. S. 1873, p. 559.

A wide-ranging species, found in Borneo and Malacca.

29. PAPILIO EURYPYLUS.

Papilio eurypylus, Linn. Syst. Nat. i. p. 754; Druce, P. Z. S. 1873, p. 357.

Agrees with Bornean examples.

30. PAPILIO PAMMON.

Papilio pammon, Linn. Syst. Nat. i. p. 746.

Papilio polytes, L. Druce, P. Z. S. 1873, p. 357.

The caudal appendage in Billiton specimens is but slightly developed; and in this respect they agree best with Javan examples.

31. PAPILIO ISWARA.

Papilio iswara, White, Entom. i. p. 280; Doubl. & Hew. Gen. D. Lep. t. 3. f. 1.

Agrees with a Malaccan specimen.

32. PAPILIO MEMNON.

Papilio memnon, Linn. Syst. Nat. i. p. 747; Wall. Trans. L. S. xxv. p. 47, pl. 1. figs. 2, 4.

A female agrees with Javan specimens and with figure 4 of Mr. Wallace's plate, and with Cramer's figure of his *P. achates*. A second female resembles figure 2 of Mr. Wallace's plate, except that the white band of the secondaries is slightly narrower. This form is represented by Cramer under the name *P. agenor*.

Fam. HESPERIDÆ.

33. CASYAPA THRAX.

Papilio thrax, Linn. Syst. Nat. i. p. 794.

Casyapa thrax, Druce, P. Z. S. 1873, p. 358.

Agrees with Indian examples.

HETEROCERA.

Fam. SPHINGIDÆ.

Subfam. CHÆROCAMPINÆ.

Chærocampa suffusa, Walk. List Lep. Brit. Mus. Het. pt. viii. p. 146 (1856).

The type was obtained at Hong-Kong. Mr. Moore tells me he has specimens from Borneo.

Fam. LITHOSIIDÆ.

HYPسيا SILVANDRA, Cr.

Phalæna (Bombyx) silvandra, Cram. Pap. Exot. iv. pl. 369. f. D (1782).

Fam. SATURNIIDÆ.

ANTHERÆA BILLITONENSIS, Moore, n. sp.

Male. Upperside pale purplish ferruginous, suffused with grey on external borders; ocelli oval, defined by a narrow dusky line, blind, outer half bordered within by a narrow yellow line and a central transverse line: *fore wing* with the area within and below the cell brighter ferruginous; apex yellowish; an oblique discal, pale ferruginous, narrow lunular band, bordered within by a dusky lunular line and without by a straight dusky line; a dusky black streak crossing the middle of the cell, and another from its base to the hind margin: *hind wing* with the base brighter ferruginous; a dusky-bordered, pale yellowish, transverse, discal, sinuous band, the dusky border encircling the ocellus and terminating on abdominal margin above end of sinuous band. Body bright ferruginous.

Expanse $4\frac{1}{2}$ inches.

Hab. Billiton Island, Malay archipelago. In coll. H. Druce.

Nearest allied to *A. frithii*, from Darjiling.

Fam. EREBIDÆ.

NYCTIPAO CREPUSCULARIS.

Phalæna (Attacus) crepuscularis, Linn. Syst. Nat. 2811. 13; Clerck, Icon. pl. 53. f. 1-4; Drury, Ins. i. p. 37, pl. 20. f. 1, 2.

A species frequently sent from Hindostan.

Fam. HYPOPYRIDÆ.

HYPOPYRA FENISECA.

Hypopyra feniseca, Guén. Noct. iii. 200. 1599 (1852).

In the British Museum, from Silhet.

Tribe URANIDES.

Fam. NYCTALEMONIDÆ.

NYCTALEMON DOCILE, Butler, in litt.

Very closely allied to *Nyctalemon hector*, White, from Borneo,

the principal difference being its larger size, broader white bands, and longer tails to the posterior wing. Mr. Butler's description has been in the hands of the Linnean Society for some time.

GEOMETRIDÆ.

Fam. ENNOMIDÆ.

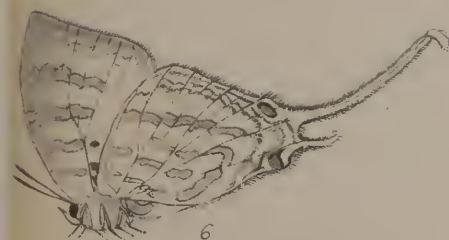
ENNOMOS TESTACEARIA.

Ennomos testacearia, Moore, P. Z. S. 1867, p. 623.

EXPLANATION OF PLATE XL.

Figs. 1, 2. *Doleschallia comrii*, p. 646.
3, 4. *Myrina nivea*, p. 640.
5, 6. — *hiemalis*, p. 640.

[From the PROCEEDINGS OF THE ZOOLOGICAL SOCIETY OF
LONDON, June 4, 1878.]



Hamilton & Deane Es,

With the Authors Compts.

Descriptions of new Species of Butterflies from the Pacific Islands. By H. GROSE SMITH, B.A., F.E.S., F.Z.S.

Papilio obero.

♂. *Upperside* brownish black; anterior wings crossed obliquely, at about one third from the apex, by a row of white spots arranged as in *P. ægeus*, Don., but the spot between the lowest subcostal and upper discoidal nervules is quadrate and not indented externally. Posterior wings with a brownish-white band of spots divided by the veins as in *P. ægeus*, but the inner edge of this band slightly invades the cell as in *P. ormenus*, Guér., and the outer ends are rather more indented and approach nearer the outer margins; above the anal angle is a large suboval brick-red spot.

Underside. Anterior wings as on the upperside; the oblique row of spots is broader and irrorated with grey on the inner side. Posterior wings with a row of six brick-red lunules crossing the disk from the submedian nervure to the apex, those nearest the anal angle the smallest, gradually increasing in size, the apical spot being the largest of them; another brick-red spot, larger than the last-named spot, is situate above the anal angle; inside the row of red spots are two rows of greyish markings, the outer of which consists of three narrow bluish-grey hastate lines between the submedian nervules, above which, divided by the veins, is a row of seven bars of grey scales, indented outwardly, those on either side of the uppermost median nervule being the broadest and most indented, the two bars nearest the apex nearly obsolete.

Expanse of wings $4\frac{1}{2}$ inches.

Hab. Santa Cruz (*Woodford*).

Very near *P. ægeus*, Don.

Stictoplæa melander.

♂. *Upperside* rich dark brown, with purple reflections over the anterior wings, on which are two small subapical violet spots (the spot nearest the apex the smaller), and four others, very minute, between the veins. Posterior wings with one small submarginal lilac spot below the second subcostal nervule, the space above the upper subcostal nervule to the inner margin pale brown.

Underside. Both wings dark brown, paler towards the outer margins. Anterior wings with the space above the submedian nervure and the costal margin pale brown; a triangular violet spot near the end of the cell and five others beyond the cell; one subapical small spot. Posterior wings with a violet spot near the end of the cell and eight others beyond the cell curving round it, the two nearest the inner margin being linear.

♀. *Upperside* pale brown, darker in the middle, with purple reflections on the anterior wings, on which is a violet spot near the end of the cell, and a little beyond it are five spots, three close together near the costa and the other two between the discoidal nervules; a submarginal row of violet spots, the first, third, and fourth of which are nearly obsolete. On the posterior wings the costal space becomes nearly white towards the apex, the outer fourth becomes very much paler to the margins.

Underside paler than above, becoming nearly white towards the outer margins, with all the spots larger and more distinct except the submarginal spots, which are nearly obsolete; the brands on the upperside of the male are represented by two long whitish streaks.

Expanse of wings, ♂ $2\frac{5}{8}$, ♀ $2\frac{7}{8}$ inches.

Hab. Santa Cruz (*Woodford*).

Nearest to *S. melolo*, Doherty; the wings are comparatively shorter and rounder in the male, and the submarginal row of spots on the anterior wings are much smaller and less distinct, while the female is quite different.

Asthipa Meeki.

♂. *Upperside* scarcely differs from *A. melusine*, Grose Smith, but the subapical vitreous streaks on the anterior wings are more elongate than in that species.

On the *underside* the wings are browner and on the posterior wings the pale bands do not approach so closely to the base; the pale streaks below the subcostal nervules are also

more elongate; the submarginal row of spots of *A. melusine* are only represented by four spots near the apex.

It is a larger insect than *A. melusine*, but very close to it.

Expanse of wings $2\frac{3}{4}$ inches.

Hab. Fergusson Island (*Meek*).

Cupha fumosa.

♂. *Upperside*: both wings fuliginous dark brown, the cells and basal two thirds of the wings paler fuliginous brown; the anterior wings are crossed from the middle median nervule to the inner margin at one third from the outer margin by three ill-defined bright brown spots placed under each other between the veins. Posterior wings crossed beyond the cell by a similar row of spots, outside which is a row of very indistinct dark brown spots.

Underside with the basal three fourths paler fuliginous brown, without any transverse lines or markings; the outer fourth is darker purplish brown, the inner side of the outer fourth is crossed from near the costal to near the inner margin by a row of orange-brown spots, centred with black and nearly surrounded by pale violaceous brown; a pale submarginal dark line crowned by pale violaceous-brown lunules.

Expanse of wings 2 inches.

Hab. Kiriwini, Trobriands (*Meek*).

Doleschallia Comrii, Godm. & Salv.

♂. *Upperside*: both wings resemble *D. dascylus*, Godm. & Salv., in colour, but the basal third of each wing is darker chocolate-brown. Anterior wings with a row of spots across the disk arranged as in *D. dascylus*; the spots are eight in number, the two nearest the costal margin white and small; the next four spots are pale blue centred with white, the fourth spot being larger than the third; the fifth spot is very large and elongated on the outer and inner sides, the latter extending as far as the cell; the ~~fifth~~ ^{sixth} spot is abbreviated inwardly, but is wider than the ~~fourth~~ ^{fifth}; the seventh and eighth spots are much smaller and are situate further from the margin.

Underside scarcely distinguishable from *D. dascylus*.

Expanse of wings $3\frac{1}{2}$ inches.

Hab. Fergusson Island (*Meek*).

The presence of both sexes of this species in the same collection enables me to describe the male of *D. Comrii*, hitherto, I believe, undescribed. The female specimens in Mr. Meek's collection agree almost exactly with the figure

of *D. Comrii* ♀ in the 'Proceedings of the Zoological Society,' 1878.

My specimen of *D. dascylus* ♀, Godm. & Salv., does not agree with their description of that sex, the band on the anterior wings being browner and entirely divided across the discoidal nervules by an oblique broad black band. If my female specimen is correctly allocated to *D. dascylus*, of which I have little doubt, as it was accompanied by seven or eight males, it is clear that *D. dascylus* (which has been confounded with *D. Comrii*) is a distinct species, the female of which, as in my collection, remains to be described.

Hypolimnias palladius.

♂. *Upperside*: both wings dark velvety brown, anterior wings crossed halfway between the cell and the apex by a broad oblique band of five white spots, divided by the black veins and situate between the subcostal and the lowest median nervules. Posterior wings with an obscure orange-rufous patch near the anal angle, in which is placed a black spot centred with violet; a submarginal row of other black spots is faintly visible, centred with minute violet spots.

Underside. Anterior wings crossed by the white band, wider than on the upperside, and extending between the median nervules nearly to the outer margin; between the lowest median nervule and the submedian nervule is an obscure dark spot, centred with violet. Posterior wings like those of *H. pandarus*, Linn., but the submarginal row of whitish lines is almost obsolete, and the inner edge of the discal tawny band is bordered by an almost white irregular band, widest in the middle, and the middle black spot in the tawny band is small and not centred with white.

♀. *Upperside* paler brown, with the white band on the anterior wings broader than in the male and extending over the subcostal nervules towards the base; a small white spot towards the apex, and a similar spot below the lowest median nervule. Posterior wings with the disk crossed by a broad irregular band of white, narrowing and becoming obsolete towards the costal margin; below this band is a row of black spots centred with white, except the third and fourth spots, the two spots nearest the anal angle partly surrounded by dusky tawny, and the next two bordered outwardly by a whitish space irrorated with black scales; outer margin broadly dark brown, the inner edge of which is sinuate.

Underside paler than above; towards the apex of the anterior wings are three white dots, and the spot above the

submedian nervure is centred with white. On the posterior wings the discal row of spots is smaller than in *H. pandarus*.

Expanse of wings, ♂ $3\frac{3}{8}$, ♀ $3\frac{5}{8}$ inches.

Hab. Fergusson Island (*Meek*).

Nearest to *H. pandarus* and *H. Saundersi*, Wall.

Hypolimnias paleutes.

♂. *Upperside* resembles *H. deois*, Hew., but on the posterior wings the pale discal patch is more widely suffused by violaceous, and the outer edge of the patch is less acutely angulated in the middle; there is only a faint indication of the orange-tawny patch at the anal angle, and there is a distinct submarginal row of spots centred, except the fourth, with violet.

Underside darker than in *H. deois*; the anterior wings are without the pale space in the middle of the costal margin, and, instead of two indistinct pale lines parallel with the outer margin, there is only an indication of one line close to the margin. The posterior wings are dusky brown, except a narrow pale space inside the discal row of spots, which are six in number, centred with violaceous, more conspicuously than in *H. deois*, in which the black spots are centred with white dots; the two spots nearest the anal angle are partly surrounded by dusky tawny; only the spot above the upper median nervule is obsolete, and the row of pale lines near the outer margin of *H. deois* is absent.

♀. *Upperside* dusky brown; a very indistinct, almost invisible, oblique paler band crosses the wings beyond the cell; a white streak at the middle of the costa and a submarginal row of white dots across the disk between the veins, except on either side of the upper median nervule. On the posterior wings is a curved row of black spots across the disk, centred with white, of which the second and sixth are the largest and the fourth the smallest; inside the row of spots between it and the cell is a slight irroration of white scales.

Underside as above, but paler. On the posterior wings the discal row of spots, in which the central spots are much larger, is bordered on either side by a paler dusky space, and the dark outer marginal band is divided by a pale brown sinuate line, divided by the dark veins.

Expanse of wings, ♂ $3\frac{1}{4}$, ♀ $3\frac{3}{4}$ inches.

Hab. Kiriwini, Trobriands (*Meek*).

Parthenos thesaurinus.

♂. *Upperside* bright brown, less olivaceous than *P. thesaurus*, Mathew. Anterior wings: the apical portion nearly black, the brown streaks and markings becoming nearly obsolete; the submarginal brown bands are much narrower and the discal transverse band of spots is much whiter than in that species. On the posterior wings the three basal dark bands are narrower, the space between them being wider and the lunules in the submarginal band more conical in shape.

Underside browner than in *P. thesaurus*, especially on the posterior wings, in which the oblique band of obscure dusky bars which crosses the disk is brown instead of black, as in *M. thesaurus*, and the pale spaces on either side of the row of dark streaks below the band are less bluish grey and more tinged with brown.

Expanse of wings $2\frac{7}{8}$ inches.

Hab. Santa Cruz (*Woodford*).

This butterfly is considerably smaller than *P. thesaurus*, being nearly the same size as *P. aspila*, Honr.

Tenaris melanops.

♀. *Upperside* white; anterior wings with the lower third from the lowest median nervule, and thence across the cell to the costal margin, and the costal margin broadly to the apex fuliginous grey; the veins, except where crossed by the grey colour, are white. Posterior wings with the costal margin to the apex broadly grey, thence along the outer margin more narrowly grey, until that colour merges in the white lower part of the wings; on the disk, between the median nervules and a little on either side, is a very large diffused fuliginous greyish-black spot, in which, a little above its centre, is situate a large cluster of lavender-coloured scales; at the lower end of this cluster is a pure white spot, and near the outer edge of the black spot is another small lavender spot; near the apex is another small lavender spot surrounded by black. Towards the base the wings are clothed with long yellowish-brown hairs.

Underside. Anterior wings as on the upperside; posterior wings with two large fuliginous brown ocelli, one of which is situate on the margin near the apex and the other on the disk extending over the submedian nervules; both ocelli are centred by a white spot partially surrounded by a cluster of lavender-coloured scales, situate in a circular black zone; outside the zone is an indistinct fuscous ring, outside which,

still in the fuliginous brown area, is a minute white spot on each ocellus.

Expanse of wings 4 inches.

Hab. Sud Est, New Guinea (*Woodford*).

Nearest to *T. affinis*, Kirby.

Elymnias melanthes.

♂. *Upperside* dark fuliginous brown, slightly paler towards the apex of the anterior and the basal third of the posterior wings; on the anterior wings is a curved streak of fuliginous dark blue, slightly metallic, commencing on the costa a little above the end of the cell, but not extending to the apex or outer margin, and gradually fading towards the outer angle. The posterior wings are tinged with the same colour in the apical region, and there are two black spots centred with the same colour on the disk towards the anal angle; one of these spots is situate between the two lowest submedian nervules and is larger than the other spot, which is situate on the other side of that vein.

Underside dusky brown; anterior wings rather densely irrorated with pale scales beyond the cell and in the apical area, the posterior wings being also sparsely dusted with similar scales. Posterior wings with a large, irregular, oblong ovate, fulvous patch extending from a little beyond the middle submedian nervule to near the anal angle; in the patch are situate two large black spots, centred with blue spots, which are double in the lower spot; the fulvous patch is more oblique than in *M. agondas*, Boisd., and other allied species. Abdomen fulvous.

♀. Both wings white; anterior wings with costal margin broadly dusky brown, becoming broader at the apex, thence narrowing along the outer margin, and ceasing below the upper median nervule; inside the dusky brown apical area is a faint indication in certain lights of the blue metallic coloration of the male. Posterior wings with the costal and apical margins broadly dusky brown, which extends partly round the outer margin and becomes dusted with white scales towards the anal angle; there are two large diffused dusky spots towards the anal angle, much larger than in the male and centred with large blue spots, those in the lower spot being double; on the disk towards the apex is an indistinct streak of slightly metallic blue, corresponding with the like coloration of the male.

Underside white, with similar dusky brown marginal bands and veins of that colour; on the posterior wings the dusky

*Descriptions of further new Species of Butterflies from the
Pacific Islands.* By H. GROSE SMITH, B.A., F.G.S., F.Z.S.

Delias callistrate.

Male.—*Upperside.* Anterior wings white, with the apex broadly greyish black, the black apical area extending from the costa at one third from the apex, thence narrowing across the disk to a little below the lowest median nervule on the outer margin, base and costal margin narrowly grey; near

the apex are two rather large white patches, with an indication of a smaller patch above and another below them. Posterior wings with a marginal black band extending from the anal angle to the lowest subcostal nervule.

Underside. Anterior wings white, with the costal and apical areas more broadly black; in the black apical area are situate five spots, of which the three uppermost are yellow, the two nearest the costa are oval, the second being the largest, the third is more conical, the two lowest spots are nearer the margin and whiter and smaller. Posterior wings bright yellow, inclining to orange towards the anal angle, with the marginal black band wider than on the upperside, in which are situate five yellow subconical spots, the spot nearest the anal angle almost obsolete and the spot nearest the apex merging into the yellow area.

Female.—*Upperside.* Both wings white, with the black costal and marginal bands much wider than in the male, and on the anterior wings extending broadly along the outer margin to the inner margin at about one fourth from the outer angle; the white subapical patches on the anterior wings as in the male.

Underside nearly as in the male, but all the spots are yellow, with an additional spot in the black apical area of the anterior wings, and on the posterior wings the yellow area is shaded with white and the yellow spots are larger and more conical.

Expanse of wings $2\frac{1}{2}$ inches.

Hab. Fergusson Island (*Meek*).

In the collections of the Hon. Walter Rothschild and Mr. Grose Smith (types male and female).

Nearest to *Delias Georgiana*, Grose Smith, *D. Jobiana*, Oberth., and *D. sacha*, Grose Smith.

Delias caliban.

Male.—*Upperside* does not differ from *D. ladas*, Grose Smith.

Underside. Anterior wings differ from those of *D. ladas* in the black area being more extended, only the basal two thirds of the cell and the space below it to the inner margin being white, the white area extending obliquely over the lower part of the disk, but ceasing on the inner margin before the outer angle. Posterior wings black, with the basal third densely irrorated with yellow scales from the costal margin at one third from the base, thence transversely across the cell to the inner margin a little above the anal angle; the yellow subapical

spots on both wings are almost identical with those on the underside of *D. ladas*.

Expanse of wings $2\frac{3}{4}$ inches.

Hab. Fergusson Island (*Meek*).

In the collection of the Hon. Walter Rothschild.

D. caliban is a much larger insect than *D. ladas*; the irrorated yellow basal area on the underside of the posterior wings is a very distinct feature, apart from other differences.

Two examples were in the collection.

Delias maga.

Male.—*Upperside.* Anterior wings white, with costal margin narrowly and apical third very broadly black, the black area extending obliquely across the disk and narrowing to below the lowest median nervule, thence becoming linear to a little below the submedian nervule; two small clusters of white scales a little before the apex. Posterior wings with a black outer marginal band nearly three times as broad as in *D. mysis*, Fabr., and other allied species or varieties.

Underside. Anterior wings with the black area as on the upperside, in which a little before the apex is a row of five spots, of which the three upper spots are the largest, situate obliquely and coloured yellow; the two lower spots are white and smaller and narrower; base tinged with yellow. Posterior wings with a very broad marginal black band, sinuate on its inner edge, and extending over the outer third, in which is a row of seven contiguous red spots or lunules, rather narrower than in *D. mysis* and *D. lara*, de Haan, which traverses the black band at about one third from the outer margin; the basal half of the wings bright yellow, the yellow area extending over the whole of the cell and below it until reaching the black band.

Expanse of wings $2\frac{3}{8}$ inches.

Hab. Sud-Est, British New Guinea (*Woodford*).

In Mr. Grose Smith's collection.

Closely allied to *D. mysis*, *D. lara*, and *D. cruentata*, Butl., but distinguished by the much broader black areas on both sides of the wings.

Huphina leucophora.

Male.—*Upperside.* Both wings creamy white, with broad black outer marginal bands. Anterior wings with the base and costal margin dusted with grey scales; the apical third and outer marginal area broadly black, having its inner edge irregularly indented between the veins and being narrowest

at the outer angle; in the middle of the black area is a row of six white spots between the veins, the spot nearest the costa linear, the second (which is the largest of the series) and the third each bordered on the inner side by an elongate streak of white scales; the three lowest spots are smaller. The posterior wings are broadly bordered with black, in which, between the lowest subcostal and discoidal nervules, is a small patch of white scales near the inner edge of the black border.

Underside. Anterior wings as on the upperside, but the costal area is rather broadly brownish black and the base tinged with yellow; the row of white spots of the upperside is represented by the same number of spots, but they are more uniform in size, and the three upper spots are yellow. Posterior wings bright lemon-yellow, with a brownish-black outer marginal band, broader than on the upperside, in the middle of which is a series of indistinct yellow streaks or spots; the inner edge of the black band is very irregularly defined.

Female.—*Upperside.* Both wings purer white than in the male, with the dark marginal areas broader and browner. Anterior wings with the costa and basal third densely irrorated with grey scales, and three subapical white spots, of which the middle spot is the largest and the uppermost nearly obsolete. Posterior wings with the white area more or less densely irrorated with grey scales, and a small cluster of white scales above the discoidal nervule in the dark area.

Underside. Anterior wings with the series of yellow spots before the apex larger, and the three lowest spots nearly obsolete. Posterior wings pale yellow, with the veins crossing the pale area white, and two yellow spots situate before the apex in the dark area.

Expanse of wings $2\frac{1}{4}$ inches.

Hab. Kiriwini Island, Trobriands (*Meek*).

In the collections of Mr. Grose Smith and others.

Nearest to *H. scyllara*, Macleay, *H. lanassa*, Boisd., and *H. pallida*, Grose Smith.

Hypolimnias pallas.

Male.—*Upperside.* Both wings brown. Anterior wings crossed obliquely halfway between the end of the cell and the apex by an obscure ferruginous band, commencing on the costa and becoming obsolete between the two upper median nervules some distance before reaching the outer margin; a subapical oval white spot, bordered inwardly by an elongate

ferruginous streak extending nearly to the oblique ferruginous band. Posterior wings with a broad fulvous submarginal band across the disk, in which between the veins is a row of black spots, some of which are centred by a minute white spot.

Underside paler brown. Anterior wings with three spots edged with black in the cell at its upperside, and an irregular brownish-white streak a little beyond the end of the cell, followed by an irregular triangular broad band of brownish white, placed obliquely, the base of the triangle resting on the costa and the apex, which is elongated outwardly, terminating on the upper median nervule; a pale brownish-white patch a little before the apex; a row of seven black spots centred with white crosses the disk beyond its middle, outside which are two submarginal sinuate pale brown lines. Posterior wings closely resemble those of *H. formosa*, Her.-Schäff., but the pale band, which crosses the disk of that species in which the spots are situate, is more obscure.

Expanse of wings $3\frac{1}{2}$ inches.

Hab. New Hebrides.

In Mr. Grose Smith's collection.

Nearest to *H. formosa*, but a much larger insect, and the wings are more elongate.

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Limenitis chilo.

Female.—*Upperside.* Anterior wings chocolate-brown; the disk is crossed beyond the cell by an oblique band of contiguous white spots, divided by the brown veins, and extending from near the costal margin, a little beyond its middle, to near the lowest submedian nervule at one third from the outer margin; a subapical tawny patch and a submarginal narrow sinuate band. Posterior wings with the basal half chocolate-brown and the outer half pale tawny brown, with a rather broad brown outer margin and a submarginal sinuate brown line from the apex to the anal angle.

Underside. Anterior wings with a reniform pale grey bar crossing the cell about its middle and a white streak at the end of the cell, both margined with red-brown, and two reddish-brown spots below the cell towards the base, the lower smaller than the upper spot; the oblique white discal band extends nearer to the margin and outer angle than on the upperside. Posterior wings with a subovate red-brown ring towards the base below the costal nervure, and several red-brown markings in the cell; two red-brown bars cross the wings, one before, the other beyond the middle; the outer tawny space of the upperside is represented by a pale pinkish-brown area, the submarginal brown line, as on the upperside, edged externally by whitish brown.

Exp. of wings $1\frac{1}{8}$ inch.

Hab. Sumba, below 2000 feet (*Doherty*).

In the collection of the Hon. Walter Rothschild. A single specimen only, in a battered condition.

Hypocista calypso.

Male.—*Upperside.* Differs from *H. osyris*, Boisd., in the more restricted area of the pale tawny patch on the posterior wings, which is confined to the outer two thirds of the cell

and a space above the subcostal nervure not quite reaching the costal margin. In *H. osyris*, *H. isis*, Stgr., and *H. serapis*, Stgr., this pale space is white and extends beyond the cell to the inner margin.

On the *underside* the pale transverse band below the cell of the anterior wings to the middle of the inner margin is narrower than in *H. osyris*, and on the posterior wings the discal ocelli are smaller and the fulvous rings surrounding them are more dusky.

The *female* differs from the same sex of *H. osyris* in similar respects.

Exp. of wings $1\frac{1}{4}$ inch.

Hab. Samarai (*Woodford*) and Tupulamu, British New Guinea.

Described from a pair from the former place and two males from the latter place.

In Mr. Grose-Smith's collection.

Thysonotis lygia.

Male.—*Upperside.* Both wings dull blue: anterior wings with the costal and outer margins narrowly greyish black; a patch of white scales in the central area below the cell at the junction of the submedian nervules with the median nervure. Posterior wings with the outer two thirds of the costal margin to the apex broadly white, and a broad greyish-black outer margin, becoming wider towards the anal angle.

Underside. Anterior wings white, with a broad black band on the costal and apical margins, which extends over the upper third of the cell and becomes wider towards the apex, thence narrowing along the outer margin to the outer angle. Posterior wings closely resemble those of *T. phroso*, Grose-Smith, but the subbasal black band is narrower and the white band outside it extends further along the costal margin to the apex; the black spots in the submarginal blue band are less elongate; cilia of both wings black.

Female.—*Upperside* scarcely differs from *T. phroso*, but on the posterior wings the costal white area is wider.

Underside also closely resembles *T. phroso*, but on the posterior wings the subbasal black band is narrower and the basal blue area is more extended.

Exp. of wings, ♂ $1\frac{1}{4}$, ♀ $1\frac{3}{8}$ inch.

Hab. Samarai, Dinner Island (*Woodford*).

In Mr. Grose-Smith's collection.

Thysonotis hengis.

Male.—*Upperside* resembles *T. Wallacei*, Feld., but the wings are brighter blue and the central irroration of white scales on the anterior wings is less conspicuous; on the posterior wings the white band before the middle is narrower.

Underside differs little from *T. Wallacei*, but on the anterior wings the costal and apical black area is narrower, as well as the white band on the posterior wings.

Female.—*Upperside*. Both wings darker brown than in *T. Wallacei*, being nearly black: on the anterior wings the dark costal band is bounded at the base by the median nervure, while in *T. Wallacei* it extends at the base broadly to the inner margin. On the posterior wings the white subbasal area is considerably less extended.

On the *underside* of the posterior wings the subbasal white band is narrower, the outer black area being broader; the submarginal blue band is wider and the black spots in it are more elongate; the cilia on both wings are less conspicuously white.

Exp. of wings $1\frac{5}{8}$ inch.

Hab. Kapaur, S.W. Dutch New Guinea (*Doherty*).

In the collections of the Hon. Walter Rothschild and Mr. Grose-Smith (types).

Described from a long series of both sexes.

It is a considerably larger insect than *T. Wallacei*, and the wings are broader and rounder. The female resembles *T. vidua*, Grose-Smith, but the white spot at the outer angle, and the subcostal blue streak on the upperside of the anterior wings of that species are absent, and the white area on the posterior wings is less extended and less sharply defined than in *T. vidua*.

Holochila æqualis.

Male.—*Upperside*. Both wings resemble *H. refusa*, Grose-Smith, but blacker brown. On the anterior wings the white area is more extended over the cell and beyond it, and the blue suffusion at the base of both wings of *H. refusa* is very slightly represented by dull slate-coloured scales which are less extended than in *H. refusa*.

Underside. The outer dark brown marginal bands of both wings are twice as broad as in *H. refusa*.

Female.—*Upperside* resembles the male, but is browner and without any bluish suffusion.

On the *underside* the outer dark brown marginal bands of both wings are likewise twice as broad as in *H. refusa*.

Exp. of wings, ♂ 1, ♀ $1\frac{1}{8}$ inch.

Hab. Kapaur (*Doherty*).

In the collections of the Hon. Walter Rothschild and H. Grose-Smith.

A long series is in the collection.

Nacaduba narovona.

Male.—*Upperside* dull slate-coloured blue, with the white bands on the underside slightly visible.

Underside greyish brown. Anterior wings with a spot at the end of the cell bordered on both sides with white, and a broad somewhat curved transverse band of contiguous spots across the disk, bordered on the inner edge with white, followed externally by a broad white band, outside which to the margin is a double row of dark lunules, intersected by a row of white lunules. Posterior wings with a similar white band and outer rows of lunules; between the two lowest submedian nervules is a large submarginal black spot, bordered outwardly by metallic blue and crowned by an orange lunule; a smaller metallic blue spot at the anal angle also crowned by orange and bordered narrowly by black; a subbasal row of spots crosses the cell, and a spot at the end of the cell, all narrowly bordered by white.

Female.—*Upperside.* Both wings dull greyish brown, suffused with dull blue over the lower part of the anterior and the base of the posterior wings. On the anterior wings a pale whitish band crossing the submedian nervules represents the white band on the underside, and on the posterior wings a similar indistinct band crosses the disk a little beyond the middle; there is a submarginal row of dark lunules crowned with whitish lunules.

Exp. of wings 1 inch.

Hab. Narovo, Solomon Islands (*Woodford*).

In the collection of Mr. Grose-Smith.

This species is readily distinguished by the conspicuous white bands on the underside of both wings. It is nearest to *N. ligamenta*, H. H. Druce.

*Descriptions of Three new Species of African Butterflies
in his own Collection. By H. GROSE-SMITH.*

Pinacopteryx narena.

Male.—*Upperside* pure white; anterior wings with the base, costal margin, and the apex (rather broadly) black.

Underside. Anterior wings white, with the apex creamy white; a minute black spot at the end of the cell, and a round greyish-brown spot on the disk between the two upper median nervules. Posterior wings rather dusky creamy white, tinged with pale orange at the base; a row of six small brownish-grey spots crosses the middle of the disk between the veins, and there is a minute brownish-grey spot on the upper discocellular nervule.

Expanse of wings $1\frac{3}{4}$ inch.

Hab. Antanossi country, S. Madagascar (*Last*).

Allied to *P. charina*, Boisd., and *P. simana*, Hopff.

Mylothris flaviana.

Male.—*Upperside* differs from *M. ochracea*, Auriv., in the colour of the wings, which are uniform yellow, not ochraceous, and in the broader greyish-black apex of the anterior wings.

On the *underside* the dark apical area of the anterior wings is restricted to half the area of the dark markings on the upperside.

Expanse of wings $2\frac{1}{8}$ inches.

Hab. Cameroons.

Neptis callina.

Upperside. Both wings dusky brown; anterior wings crossed beyond the cell by a broad white band, placed rather obliquely and extending from the subcostal nervure at the middle to the lowest median nervule; the upper part of the band at the end of the cell curves abruptly inwards, the lower part of the band being narrower and indented on its outer edge; a rather large white patch on the middle of the inner margin, extending upwards to the lowest median nervule; beyond the band towards the apex are three narrow hastate white markings, and traces of a fourth, enclosing a row of conical spots darker than the ground-colour, followed by two submarginal brownish-white lines, divided by the veins; the cell is crossed beyond the middle by three dark lines and a V-shaped marking towards the base, the spaces between which are paler than the ground-colour. Posterior wings crossed about the middle by a broad white band, the inner edge of which is regular and the outer edge is indented; towards the outer margin between the veins is a row of conical spots, darker than the ground-colour, bordered on either side by dusky white lines, followed by a submarginal row of narrow lunulate dark bars, narrowly bordered on each side by dusky white lines; the cilia on both wings between the veins narrowly white, the veins where they cross the white bands being also white.

Underside brighter and paler brown than above, with the white spots and lines much brighter; on the anterior wings the ground-colour of the cell is brownish white, and on the posterior wings there is a broad white streak above the costal nervure.

Expanse of wings $1\frac{3}{4}$ inch.

Hab. Cameroons.

Descriptions of new Species of Butterflies from South America. By H. GROSE-SMITH, B.A., F.E.S., F.Z.S., &c.

Heliconius molina.

Male.—Upperside. Both wings brownish black, suffused with shining dark blue. Anterior wings with an oblique crimson band at the end of the cell, which it partially invades, crossing the middle of the disk to a little below the lowest median nervule, on which it is rather widest. Posterior wings with the costal margin broadly pale cinereous brown.

Underside. Both wings dark brown. Anterior wings with

the band dull rufous and intersected by three irregular bands of brown scales between the veins; the area below the lowest median nervule and median nervure to the inner margin pale cinereous brown. On the posterior wings is a faint indication of a broad paler band crossing the disk horizontally a little before the middle.

Exp. of wings $2\frac{1}{4}$ inches.

Hab. Valdivia, Colombia (Pratt).

Nearest to *H. cyrbia*, Godt., and *H. cythera*, Hew., but on the posterior wings without the white outer margin and with only a faint indication of the middle pale band.

Adelpha juanna.

Male.—*Upperside.* Both wings crossed by brown bands as in *A. leuceria*, Druce, but wider throughout. On the anterior wings the inner branch of the brown band, where it becomes bifid towards the costa, is much wider, being of equal width with the lower part of the band, and the brown spots in the outer branch are smaller and do not curve inwardly. The posterior wings are more convex on the outer margin.

On the *underside* differences occur similar to those on the *upperside*.

Exp. of wings $2\frac{1}{4}$ inches.

Hab. Valdivia, Colombia (Pratt).

It is very close to *A. leuceria*, but a larger insect.

Adelpha nahua.

Male.—*Upperside.* Both wings resemble those of *A. cythera*, Linn., but on the posterior wings the discal white band is bordered outwardly by a very broad fulvous band which crosses the disk from the costal margin before the apex to the anal angle; the white band is narrower and terminates more acutely and further above the anal angle than in *A. cythera*. On the *underside* of the posterior wings the fulvous area outside the white discal band is brighter and less distinctly traversed by the irregular dark band on *A. cythera*, there being only an indistinct indication of it; the submarginal row of white lunules is almost obsolete.

Exp. of wings $1\frac{1}{2}$ inch.

Hab. Merida.

Symmachia miron.

Male.—*Upperside.* Anterior wings resemble those of *S. jugurtha*, Stgr., but the yellow semihyaline space beyond the black

bar at the end of the cell is widest on the costal margin, instead of being narrowest, beyond which are five semihyaline elongate white spots on the disk, the uppermost and lowest of which are minute; the orange-rufous bar on the inner margin is wider and more elongate. The posterior wings are orange-rufous, bordered all round rather narrowly by black.

Underside.—Anterior wings as on the upperside, except that the inner marginal rufous band is represented by a pale buff streak. Posterior wings black, with a triangular spot near the base of the cell; two subcostal spots on the disk, another elongate spot at the end of the cell; a broad, more elongate streak near the inner margin, reaching to the base; two spots above the anal angle; an elongate bar across the median nervules before the margin, and a minute subapical spot, all of which are shining pale stramineous; palpi black, front of the head between the eyes orange-rufous; thorax and abdomen black in the middle, bordered by orange-rufous, with stramineous rings underneath.

Exp. of wings $1\frac{1}{2}$ inch.

Hab. Ecuador (*Buckley*).

A very remarkable insect; on the underside it is nearest to *S. accusatrix*, Westwood.

Lucilla aterra.

Male.—*Upperside*. Anterior wings dark shining blue, with the middle of the disk crossed by a broad, oblique, suboval crimson band, which extends into the outer part of the cell and below the lowest median nervule. Posterior wings rather paler shining blue, with seven elongate, triangular, pale greyish-blue streaks on the disk between the veins, those in the middle the most elongate and gradually becoming shorter towards the apex; the bases of these streaks do not quite reach the outer margin.

Underside dull bluish black; the band on the anterior wings is coloured orange; on the posterior wings the pale blue streaks of the upperside are steel-blue, become linear, and extend as far as the cell, towards the end of which is a short steel-blue marking.

Exp. of wings $1\frac{1}{2}$ inch.

Hab. Colombia (*Pratt*).

Nearest to *Lucilla camissa*, Hew., but quite distinct.

Aricoris Buckleyi.

Male.—*Upperside*. Both wings dark blue, except the apex of the anterior and the costal margin of the posterior wings, which are rather broadly black.

Underside. Both wings bronzy brown. Anterior wings with a pale streak extending along the basal two thirds of the cell, and a basal diffused orange patch below the cell; four submarginal conical white spots on the disk between the veins, the lowest of which near the outer angle is bifid. Posterior wings with three basal orange streaks, one on the costal margin the shortest, the second in the cell and extending a little beyond it, the third the longest, in the interspace between the lowest median nervule and submedian nervure; five submarginal conical white spots on the disk between the veins, of which that nearest the anal angle is bifid and the most elongate.

Female.—*Upperside* bronzy brown. Anterior wings with the disk crossed beyond the cell by a broad oblique orange band, extending from near the middle of the costa, which it does not quite reach, and where it is rather paler, to the lowest median nervule, but not reaching the outer margin; the outer edge of the band is rather sinuate.

The *underside* is paler bronzy brown. On the anterior wings the band is pale tawny, and towards the outer angle is an indication of the bifid conical spot in that position on the underside of the anterior wings of the male. Posterior wings with a submarginal row of white conical spots as in the male, but much less distinct.

Exp. of wings, ♂ $1\frac{3}{4}$, ♀ 2 inches.

Hab. Ecuador (*Buckley*).

Nearest to *A. velutina*, Bates.

Descriptions of Four new Species of Lycænidae from the Eastern Archipelago. By HAMILTON H. DRUCE, F.Z.S., F.E.S.

Thysonotis lampros, sp. n.

♂. Upperside allied to *T. philostratus*, Feld., which it resembles in colour, but the fore wing is entirely without the white discal band, and has a somewhat wider black outer margin, which is less distinctly defined on its inner edge. The hind wing differs from that of *T. philostratus* by the blue area being rather more extensive. The cilia of both wings (which in *T. philostratus* are black) are white, those of the hind wing slightly marked with black at the termination of the nervules. The underside differs from that species by the white band being usually narrower, and in the hind wing always straighter, not so curved in towards the base of the wing where it reaches the abdominal margin. The

bluish-green costal streak of the fore wing reaches closer to the apex before it rounds off along the outer margin, consequently the apex is less broadly black than in *T. philostratus*. The blue submarginal band on the hind wing is wider and its central black spots are more elongate. Cilia of both wings as above. Thorax and abdomen concolorous with wings.

♀. Upperside almost entirely blackish brown, with but a faint indication of a narrow pale band, which ends in a small creamy white patch on the abdominal margin, close to the base, after it crosses the submedian nervure. Cilia as in male. On the underside it differs from the male by the white band being narrower, and consequently the black areas being more extensive, and by the submarginal blue band of the hind wing being wider and containing still more elongate deep black spots. Some specimens have on the fore wing, between the blue band and the outer margin, a narrow whitish band from near the apex to the outer angle interrupted by the brown nervules.

Expanse, ♂ $1\frac{4}{5}$ – $2\frac{1}{5}$ inches; ♀ $1\frac{7}{10}$ to $2\frac{1}{5}$ inches.

Hab. Kiriwini, Trobriand Is., March to May (A. S. Meek).

Types Mus. Druce.

At first I thought that this species might be nearest to *T. regina*, Kirby, from Normanby I., but on examining the type of that species I find that it is allied in coloration to *T. apollonius*, Feld., which is entirely different from *T. philostratus*.

T. lampros is the only species of this group which has entirely lost the white band on the fore wing above, and the female is much duller than any other described. Mr. Meek obtained many specimens, which scarcely vary except in size.

PHILIRIS, Röber.

Herr Röber has made Felder's *Thecla ilias* from Amboyna the type of his genus.

It may perhaps be found convenient to retain Hübner's name *Candalides* (the first name mentioned under this heading being *xanthospilos*, Hübn. from Australia) for some species of this group, as I find that the 3rd subcostal nervule varies considerably in length.

Of the species described here, *P. theleos* has this nervule comparatively long as in *P. ilias*, whilst *P. speirion* and *P. mneia* have it comparatively short as in *P. philotus*.

Holochila absimilis, Feld., and its allies have it comparatively long, but the name *Holochila* cannot be used, as it is preoccupied.

Philiris theleos, sp. n.

♂. Upperside closely allied to *P. ilias*, Feld. Blue colour rather darker and more glistening; apex and outer margin of fore wing distinctly broader, black-bordered. Outer margin of hind wing, which in *P. ilias* is almost linear, distinctly and evenly black-bordered as in fore wing. Cilia whitish, with black at the ends of the nervules, but less conspicuous than in *P. ilias*. Underside differs from *P. ilias* by being a pale brownish white in place of pure white. Antennæ black with white spots. Abdomen black above, pale below.

Expanse $1\frac{3}{10}$ inch.

Hab. Amboyne, February (Doherty).

Type Mus. Druce.

This species has the outer margin of the fore wing nearly straight as in *P. ilias*.

Philiris speirion, sp. n.

♂. Allied to *P. philotus*, Feld.: upperside a much brighter and bluer shade of purple, with the black borders to both wings rather more than twice as broad, and the white cilia more conspicuous and less distinctly spotted with black at the terminations of the nervules. Underside as in *P. philotus*.

♀. Upperside: both wings pale shining cærulean blue, much the colour of *P. philotus*, ♀, but more brilliant, with broad blackish-brown margins. Cilia grey. Underside as male, but paler.

Expanse, ♂ ♀ $1\frac{2}{5}$ inch.

Hab. Fergusson I., September to December (A. S. Meek).

Types Mus. Druce.

Mr. Meek obtained many specimens which do not appear to vary.

It seems to be a very distinct form, and the female is, I believe, the first one of this genus described which has the conspicuous blue area of almost equal extent in both wings.

This insect, together with the next described, has the outer margin of the fore wing in the male distinctly convex, as in *P. philotus*. There appears to be a patch of darkened scales in the cell of the fore wing in *P. philotus*, but I can find no trace of this in *P. speirion*.

Philiris mneia, sp. n.

♂. Upperside uniform dark purplish brown; cilia greyish. Underside differs only from *P. philotus* by being of a more reddish-brown shade and by the unmarked cilia.

♀. Upperside dull deep brownish black; cilia of fore wing brownish, of hind wing white, with black spots at the termi-

nations of the nervules. Underside paler than male, with the cilia of the fore wing black, of hind wing white, with large black spots at the termination of the nervules, and with an anteciliary black line.

Expanse, ♂ $1\frac{2}{5}$ inch; ♂ $1\frac{1}{2}$ – $1\frac{3}{5}$ inch.

Hab. Batchian, March (*W. Doherty*).

Some female specimens have a few blue scales dusted on the disc of the fore wing above.

This species has long been in collections, but I have nowhere seen it described.